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BIGGEST STORIES
in the
history of **OIL**

The
**BIGGEST
STORY**

in the
history of
EDMONTON
LEDUC and CALMAR AREA

Largest Settlement in Mackenzie District

Yellowknife Is Dominion's Fastest-Growing Gold Town

Canada's fastest-growing gold town is Yellowknife, the largest settlement in the Mackenzie District of the Northwest Territories. Yellowknife, situated on a rocky peninsula in Yellowknife Bay, on the north shore of Great Slave Lake, became a boom town in 1933-36, following rich gold strikes in the area. The war brought a slump, but now Yellowknife is expanding again.

The Yellowknife Administration District was formed in 1939, and the first municipal government in Yellowknife came into being the following year. The population then was more than 3,000. There were six gold mines in the area in 1942, but the gold mining shutdown during the war curtailed activities.

This current boom started in 1944, with a gold strike across the bay from the town. Unlike many other strikes, this was not luck but the result of a geologist's deduction. He reasoned that gold must lie somewhere along the West Bay Fault, a giant break in the earth's surface. The first diamond-drilled test hole confirmed his belief and the rush was on.

By 1945 Yellowknife had a population of 5,000 in the town and nearby prospecting area and the figure is expected to reach 4,000 to 5,000 this winter. In summer daily air service from Edmonton, 700 miles south, brings in more men and women. Supplies are moved by boat in summer and by tractor train in winter.

MINE PRODUCTION still is limited but several hundred new mining companies have been formed for operations in the district. Their prospectors and drillers are working over a wide area.

Imperial Oil Ltd., has kept pace with the increased activity at Yellowknife and throughout the Northwest Territories generally. The company has supplied petroleum products which are so necessary to mining and exploration and to transportation by air, land and water.

Imperial now operates bulk agencies at Waterways and Fort Fitzgerald, Alta.; and at Fort Smith, Yellowknife, Fort Simpson and Aklavik, in the Northwest Territories. In addition, the company also ships petroleum products from the refinery at Norman Wells to settlements scattered from Fort Providence on the Mackenzie River to Holman Island, Reid Island and Coppermine in the western Arctic and to Bathurst Inlet in the eastern Arctic.

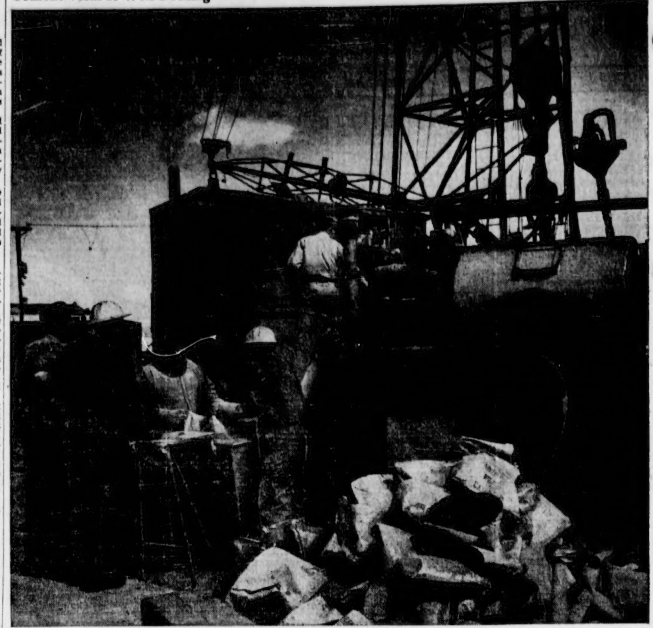
THE AREA SERVED covers approximately one million square miles and shipping problems are complicated by the short season of three or four months each year when water transport is possible. The two main shipping points are Waterways and Norman Wells. All lubricating oils, greases and the like, and all white products—gasoline, kerosene and naphtha—for the Lake Athabasca region, Fort Fitzgerald, Fort Smith, Fort Resolution and Yellowknife are loaded at Waterways, where the navigation season is about a month longer than at Norman Wells. All white products for the area from Fort Providence north, including Eldorado Mines at Fort Resolution, on the northwest end of Great Bear Lake, are shipped from Norman Wells.

BEFORE 1938 Imperial operated only out of Norman Wells and Waterways. The company was a pioneer in the development of the northland and as new areas opened up, company facilities were expanded to serve them. Ten storage tanks were installed at Yellowknife, which was then primarily a refueling point for air traffic bound for the uranium mines at Port Radium rather than a gold mining centre.

To supply Yellowknife's greatly expanded petroleum requirements, a building program was introduced which now gives the company 62 storage tanks, plus one 10,000-barrel tank for diesel fuel.

TEACH INDIAN CHILDREN. REGINA.—(CP)—Teachers will be placed in hospitals for Indian children at North Battleford and Fort Qu'Appelle, Sask., the Indian affairs department announced, to enable convalescing students to continue classes.

Cement Vital to Well Drilling



Cementing surface casing at Imperial-Loomis No. 1. Often several hundred bags of cement are used during the drilling of an oil well. Here it will then pump it to the required level below the surface.

skilled cement personnel feed dry cement into the mixing truck which will then pump it to the required level below the surface.

Canada-Bermuda Service Mooted

HAMILTON, Bermuda, Feb. 18.—(CP)—A new freight shipping service between Canada and Bermuda is under consideration here following an engine breakdown at sea which forced the Canadian freighter Dundas into Bermuda for repairs.

D. M. Wathen of Saint John, N.B., general manager of the Kent Line, accompanied the relief ship Galloway Kent to the tiny harbor of St. George's to superintend trans-

fer of the cargo of salted codfish, bound for Brazil. At the same time he took a look into the shipping situation with the idea of extending service to the colony.

"I have been making inquiries with a view to perhaps starting a shipping line between the two places," he said here. "The chief difficulty would be to find enough Bermuda cargo to take back to Canada. At one time we used to see quite a lot of Bermudian products in Canada but there are few available now."

It was reported recently that the Quebec government and Bermuda might soon start discussions on the possibility of exporting fish from

Quebec in return for produce such as tomatoes, onions, bananas and lily bulbs.

Drill 33, Get 31

The men behind the Continental Oil Company of Canada Limited know the oil business. This is evidenced by the fact that in the last few years they have drilled a total of 33 wells in Turner Valley and brought 21 of them into production, a truly amazing record for the oil industry.

In India and Persia the cheetah, a kind of leopard, has been used for centuries for hunting antelopes and other fast game.

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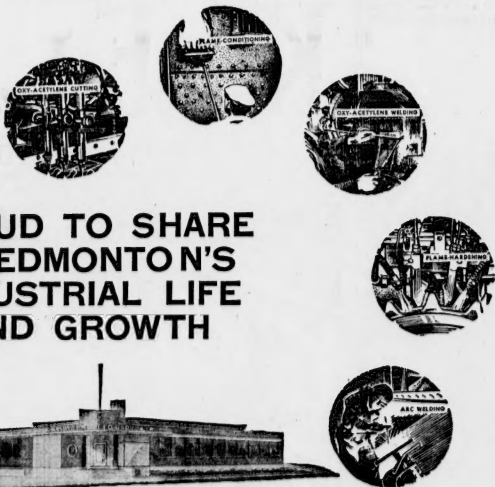
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PINCHER CREEK
JUMPING POND

Net Income at the present time amounts to approximately \$10,000 monthly from the companies producing wells in Turner Valley, Cat Creek and Lloydminster.

ACTIVE EXPLORATION OF THE COMPANY'S OTHER ACREAGE IS PLANNED FOR THIS SEASON.

Woodbend No. 1 Broadens Leduc Field

Semi-Proved Area May Be Doubled Due To Discovery of Well

Imperial Woodbend No. 1, wildcat well located three miles northwest of the proved limits of the Leduc field, has been completed at a total depth of 5340 feet, below the oil-bearing level of the D-3 porous horizon, and has shown exceptional promise of being a big well. Following the drilling below the water level the well was cemented back to the base of the oil zone, production casing was run through the zone and the casing opposite the oil-bearing portion of D-3 was gun-perforated.

The well commenced flow Jan. 28 and during the first hours an unwatered flow averaged 10 barrels per hour. Varying back pressures were applied and the well continued to flow at the hourly rate of 65 to 70 barrels. At the present time the well is shut in due to limited crude storage facilities, and will be operated on steady flow when the accumulated oil has been cleared.

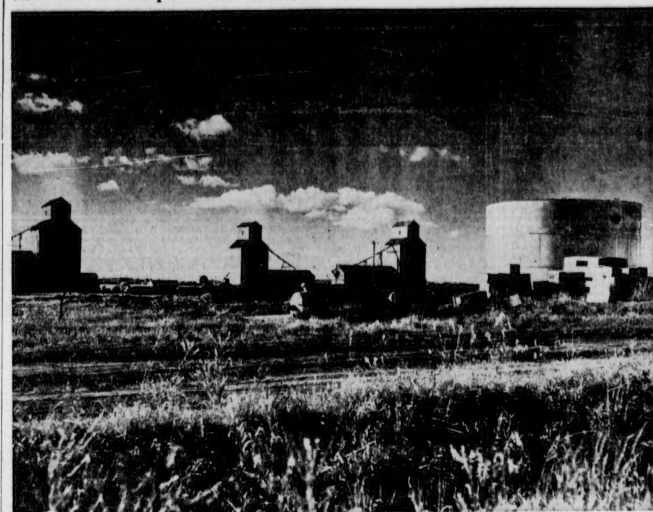
The full possibilities of this oil discovery are not known, but it would appear that the semi-proved area could be doubled as a result, and an unknown number of additional drill sites are indicated. The Leduc field is definitely proving itself to be an area of exceptional promise as a major oilfield and will become an increasingly important source of petroleum products for western Canadian needs, and, indeed, a possible source for export.

During the past month, Imperial Oil Limited completed seven new wells and independent companies completed five new wells. Estimates to the productive limits were recorded both on the east edge and on the southern portion of the field. Imperial Leduc 29, south of the Leduc field, was drilled to a depth of 5100 feet and reported from the east edge and recorded one of the largest flows yet seen in the Leduc field. It is estimated to be producing at a rate of nearly 200 barrels per day, and the recent completions also are substantial producers and are expected to be even more so.

Both Imperial Oil Limited and McColl-Frontenac Oil Company Ltd. are exploring for crude-bearing structures in the area surrounding the Leduc field. McColl-Frontenac is locating a commercially productive pool to date although several wells are drilled or have been drilled on indicated structures. Imperial Oil has announced the location of wildcat well, Ford No. 1, at a site 11 miles southeast of the Leduc field. Average holdings by Leduc oil companies are being increased each month and the main portion of the rights are being acquired in the general portion of Alberta along a central strike parallel to the front of the Rocky Mountains and extending in width for up to 200 miles. Extensive geological surveys are now underway and several new parties will be entering the province in the spring. The growing importance of Leduc, the substantial crude oil price, and the Canadian and American shortage of crude oil are largely responsible for the largest exploration and development program in the history of Alberta. Most of the world's major oil companies are now active in the province.

CANADIAN GULF Oil Company, at its Pioneer Creek No. 1 well in the extreme southwest portion of the province, has topped the Madison limestone objective at a depth somewhat shallower than pre-drill estimates and has run a short duration drillstem test in the upper portion of the limestone. On test the well showed a substantial gas flow accompanied by an unknown but appreciable light crude oil content, together with a formation pressure of 4775 pounds which is believed to be one of the largest recorded on the North American continent. There is considerable speculation as to the full meaning of the results obtained from this deep test and visions of a gas trend flanking crude accumulations, similar to the famous Turner Valley field, are fantasized. Until further tests are

Oil Tanks Now "Compete" with Familiar Grain Elevators



The conventional prairie grain elevators, long symbols of the agricultural wealth of Alberta must now share the spotlight with the oil storage tanks, as the expanding Edmonton oil fields bring in more producers. In the foreground is one of three large storage tanks erected

offered by the provincial government on a bonus royalty tender arrangement. Tenders called for the cash payment of \$250 per acre plus a gross royalty bonus in addition to the normal Crown royalty, and drilling to commence by May 1. One tract was awarded to Saskatchewan Petroleum Co-operative Ltd. of Saskatoon with a bonus royalty of 50 per cent, and the other tract was awarded to Hemo Falco of New York, through J. P. Flynn, with a bonus royalty of 80 per cent. Both bids accepted apparently were more than any major oil company was prepared to pay and have aroused considerable comment from the Alberta oil industry.

OFFICIAL production reports are not available for fields in western Canada, but compilations of production from the Leduc and

Lloydminster fields show December output from Leduc to be 96,874 barrels from 28 wells, raising cumulative output to 372,450 barrels, and from the Lloydminster field about 118,156 barrels during December with a production of about 845,871 barrels during 1947 and cumulative to the end of the year of 1,132,772 barrels. Daily production from the Lloydminster field increased from 850 barrels to 1,811 barrels during 1947 and the number of producing wells increased from 34 to 112. Both areas should show marked gains during the coming year, events are forecast.

RECORD DREAMS BRISTOL, England. — (CP) — Seventeen British University students are daily recording incidents of their dreams to test the theory that not only are past events transcribed into dreams but future

and would not be delivered until the company's operations were fully financed or sufficient wells had been brought in to ensure the payment of yearly or two-yearly dividends to shareholders.

Novelist Rupert Hughes was nicknamed "History" at school.

These figures were issued Friday by Company officials in taking stock of the company's position in the first anniversary of the Leduc discovery by Imperial Oil. It was also pointed out that shares held in escrow by the sponsors of the company had not been delivered.

\$600,000 Issue Build Sank. Bridge

REGINA, Feb. 18.—To finance construction of a bridge over the South Saskatchewan River at Saskatchewan Landing, 40 miles north of Swift Current, the Provincial Government will issue a new debenture to raise \$600,000. Provincial Treasurer C. M. Fries announced.

The bonds will be sold in districts north and south of the river. They will be negotiable, in denominations of \$50, \$100, \$500 and \$1,000, with interest at 3 1/2%. Salemen will be allowed 1% commission. The campaign will end June 1.

A bill will be introduced at the present session of the legislature to authorize the debenture issue. Formal application has already been made to the Department of Public Works, Ottawa.

Every Employee Is Co. Shareholder

Officers of Continental Oil Company of Canada Limited are proud of the fact that every employee of the company, whether in the office or in the extensive field operations is the owner of shares of the company's stock.

This is indeed an indication of their faith and interest in the poli-

Colored Movies For Free Use

Service clubs, home and school groups, educational bodies, organizations of every kind will probably be pleased to learn they can have the free use of colored moving pictures of the oil industry by making a request to the Continental Oil Company of Canada Limited, 407 Lancaster Building, Calgary.

Active pictures made in color during the last ten years, showing drilling operations and wells blowing into production in both Turner Valley and Leduc fields are available. The company is prepared to supply a projector and trained operator at no cost to such organizations willing to give wider publicity to the amazing story of Alberta's oil development.

At present the films are about 3,500 feet, requiring about three quarters of an hour showing. If you are interested in seeing these colored movies write or call to the Continental Oil Company of Canada Limited, 407 Lancaster Building, Calgary.

Officers of the company and the properties it is developing, one official stated Friday in commenting on the situation.

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Important Leduc Role

Cross-Dillon Group Has Big Producers

The Cross-Dillon group of independent producers in the oil field are playing an important role in development of the field. The importance is indicated in the production figure for January, which shows that these wells produced a total of 23,876 barrels of crude during the month.

THE CROSS-DILLON group is composed of the Globe Oil Company, Leduc West Oils and East Leduc Oils.

The Globe-Leduc West team, with four wells producing in January, showed output of 15,837 barrels, all deliveries of 16,794 barrels for gross return of \$82,944. East Leduc, with one well in January, accounted for the balance.

Since completion of the first Globe-Leduc West well last August, the Cross-Dillon group has produced 17,414 barrels of oil in the Globe-Leduc sector. A fifth Globe-Leduc West well and a second East Leduc well have so far been completed successfully in February.

barrels, 5.58 inch choke, casing 800, tubing 500, separator 120.
Globe-Leduc West No. 3 produced 13,138 barrels in 29 days in January through 3.48 inch and 11.64 inch chokes; cumulative yield 12,029 barrels; January deliveries 4,524 barrels, value \$15,806; Feb. 3 yield 164 barrels, 11.64 inch choke, casing 1,000, tubing 700, separator 120.
GLOBE-LEUDUC WEST No. 4, produced 3,696 barrels in 11 days of January (initial yield), some open flow, balance through chokes 21.64 inch, 1/4 inch and 3/8 inch; January deliveries 2,878 barrels, value of \$9,409; Feb. 3 yield 118 barrels, 3.16 inch choke, casing 800, tubing 450, separator 120.

Following is a report on the individual wells in the group:

Globe-Leduc West No. 1 produced 4,096 barrels in January through 7.53 inch and 1/4 inch chokes; cumulative yield 13,373 barrels; January deliveries 4,256 barrels, value \$14,685; latest day reported (Feb. 3), yield 128 barrels through 7.52 inch choke, casing pressure 475 pounds, tubing 400 pounds, separator 30 pounds.
Globe-Leduc West No. 2 produced 5,236 barrels in January through 3.16 inch choke; cumulative yield 31,224 barrels; January deliveries 5,138 barrels, value \$17,798; latest day reported (Feb. 3), yield 148 barrels.

Alberta Offers Lots Cheap Power

With millions of barrels of oil being produced annually, abundant coal reserves and enormous quantities of natural gas, Alberta is in a position to offer cheap power to industries being established in the province.

Industrial development of Alberta has advanced rapidly in the past decade and there are indications of further industrialization taking place.

Alberta has a substantial water power reserve and electric power is essential to modern industry. It is estimated that up to 1,000,000 horsepower could be developed on the rivers flowing from the eastern slopes of the Rocky Mountains.

Will Probe Life In Ocean Depths

HAMILTON, Bermuda, Feb. 18.—(Reuters)—Mysteries of life 8,000 feet below the surface of the ocean will be explored by an expedition which will conduct the first large deep sea research in the western waters of the north Atlantic this summer.

Starting in June this year the expedition will be under the auspices of the Chicago Natural History Museum in collaboration with the Bermuda biological station. Dredges and dragnets will be used to explore the ocean depths.

Doctor Dugald Brown, director of the Bermuda station, said that because of the great depths from which animal life and fish will be brought in some cases, it will be impossible to keep them alive although they will be transferred to special high pressure tanks as soon as possible.

It is hoped, however, that certain parts such as hearts will be still alive and available for study under conditions equivalent to the two ton per square inch pressure of the great depths.

In Oil Hunt



W. K. Whitford, president of British American Oil Company Limited, one of the many large Canadian oil concerns, active in the search for new petroleum sources in Alberta.

Regulations Make For More Drilling

When an oil well is brought into production in Alberta, it virtually assures at least one other well, according to Hon. N. E. Tanner, minister of lands and mines.

This assures the development of fields, as under new regulations as oil rights lease must be in a certain well within 90 days on the bringing in of any producing well.

THE GOVERNMENT also requires the right in all leases to require faster development having "due regard to market requirements and maintenance of adequate reserves."

The government retains all leased and water-covered areas and has made provisions in the new regulations for participation in joint development where there are freehold interests.

Consent of the minister of lands and mines must be obtained before any well can be abandoned, whether the well has been a producer or not.

Huge Storage Tanks for Leduc Oil Erected at a Nisku



As developments in the Leduc sector of the Edmonton oil fields point more and more to one of the major petroleum fields of the continent, additional facilities are being added to take care of the big flow of oil from the field. Above are shown the three huge storage tanks at Nisku rail siding 16 miles south of Edmonton on the C.P.R.

The tanks having a total storage capacity of 30,000 barrels, have been erected at the terminus of a pipe line from the field by Imperial Oil Ltd. The pipe line went into operation Nov. 1, 1947. Loading tracks that will load 16 oil tank cars at a time are situated close to the tanks.

—Photo by Blom

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... ONE YEAR AGO

... and the recent Woodbend discovery, have ushered in a new era in Alberta oil development. We keep in close contact with field operations in these and all other areas and can advise our clients on a basis of actual knowledge.

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More Heintzman pianos, however, are being made available to the public. But more important, from the long-term point of view, is this fact: The public is assured that each Heintzman piano delivered is endowed with the same matching tone, action and durability that, for nearly a century, have made this instrument overwhelmingly the choice of the most celebrated musicians and music lovers.

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Petroleum Geological Angles Are Interesting

While oil prospecting often proves highly remunerative for operating companies, it also produces an interesting side-light when petroleum geologists go to work.

THIS IS DONE through a process known as core drilling. The core drills cut out long, cylindrical-shaped rock pieces, which are brought to surface and then to a laboratory where the strata can be identified by the fossilized remains of ancient creatures, long since buried hundreds of feet below surface.

At the lab are a group of geologists who have a very special acquaintance with the innumerable tiny creatures which remain in the rock formations.

Many types of these creatures existed for only a short time before they became extinct. Today these are known as "markers," and when a geologist encounters one of these he knows exactly what ancient sea floor—now a rock stratum—it came from.

IF THE GEOLOGIST finds the same marker fossils much lower in the earth at one point than at another, he will know that the formation is dipping and this knowledge may lead him to a rock trap which contains oil.

When the first Leduc well was begun Imperial Oil had decided to core carefully at frequent intervals, to obtain a record of rock strata. On subsequent wells it will watch carefully to discover the depth of the "Devonian," the formation which produced oil at Leduc. This will help determine what kind of rock trap contains oil at Leduc, and also to some extent, how much

oil the area may be expected to yield.

WHILE CORE drilling brings up actual samples of rock in the form of cylinders perhaps two inches in thickness, the geologist does not depend entirely on these for information. Continuous core drilling would be too slow and too expensive.

He has men known as sample catchers, who catch samples of the rock cuttings as they are washed up from the bottom of the well. These samples are given a quick check at the well and then sent to the laboratory. "Bug pickers" wash the fossils out of the mud and dry them, and the subsurface geologist examines and identifies them with the aid of microscopes.

Very often an oil company is quite satisfied with the geologic information it gets from a hole even though it does not produce oil. By correlating the information from a great number of holes geologists obtain a much more accurate picture of where oil may be.

SOMETIMES, TOO, shallow holes are drilled solely for the purpose of obtaining cores. Imperial Oil engaged on an extensive shallow core drilling program during the war which ran from southwestern Saskatchewan to a northwesterly direction in the Edmonton area last summer.

The chief reason for this program was to permit geologists to see what was below the mantle of glacial deposit which covers the bedrock for as much as 700 feet

Leduc Flare Lights Up Edmonton Sky



Southwestern skies over Edmonton reflected a glow all night long on December 28 and 29 last year, when a million cubic feet of gas were burned off at the Globe-Leduc No. 1 well, which was closing mud and accumulated waste. Globe-Leduc No. 1 is one of the big independent producers in the Leduc field.

—Photo by Bland.

Sodium Sulphate Sets Record in '47

REGINA, Feb. 18.—A record of more than 160,000 tons of sodium sulphate was produced from four recovery plants in Saskatchewan during 1947. W. James Bichan, Director of Mineral Resources reports. This exceeds by 31,000 tons the previous record year of 1942.

"It has been estimated," Mr. Bichan said, "that by the end of 1948, pulp mills in United States and Canada will be using more than 800,000 tons of sodium sulphate annually. This represents over 80% of the total North American industrial consumption of this mineral."

Sodium sulphate is used in the manufacture of brown paper, corrugated packing boxes and similar paper products where high strength is required.

Pointing out that practically all sodium sulphate produced in Canada came from Saskatchewan, Mr. Bichan said the government-owned plant at Chaplin was expected to begin operations shortly, and that its output would provide a substantial boost to production in 1948.

SILVER FOR ETHIOPIA STOCKHOLM.—CPI—A magnificent set of church silver, consisting of 24 chalices and 40 many plates, or water dishes, have been executed for Emperor Haile Selassie of Ethiopia by a firm of jewellers here. The pieces, made of gold and silver brought from Ethiopia, are to be donated to various churches in that country.

Doubt Fertilizer Price To Be Cut

MONTREAL, Feb. 18.—Compound fertilizer prices, established in November, 1947, and still in effect, will not be affected by the recent W.P.T.B. order rolling back ammonium nitrate prices by \$18.50 a ton, manufacturers say.

Most of the fertilizer used in Canada is of the "compound" or "mixed" variety composed of nitrogen, phosphate and potash. In 1946, sales of straight ammonium nitrate were only 6,986 tons, against 342,407 tons of mixed fertilizers. On an average, there is approximately 4% ammonium nitrate in most mixed fertilizers sold, it is stated. Selling prices of mixed fertilizers, estimated to be about 8% higher than a year ago, it is stated. Manufacturers say that increase is the price of other ingredients such as potash and nitrogen phosphate, more than offsets the rollback in ammonium nitrate prices, and declared that other costs are also up, bags 17% labor 13%.

In view of the world-wide shortage of fertilizer, manufacturers voice grave concern over ability of their plants to meet heavy demands placed upon them this year.

INDIAN RAYON

NEW DELHI, India.—CPI—A panel set up by the Indian government to study possibility of establishing a rayon industry in India has reported that cellulose, basic raw material required, is available in abundance. The panel estimated that seven factories could produce 70 tons a day, India's present consumption.

Western Oil Production Passes 100 Million Barrels

In December, 1947, shortly before Christmas, Western Canada's oil industry rolled past an important production milestone. In that month, according to records compiled by the "Daily Oil Bulletin," cumulative production passed 100 million barrels. Production for the full year 1947 was 1,752,572 barrels, an increase of about 116,000 barrels over 1946 but down 2.5 million barrels from the record year 1942.

IN 1948, with oil production from Leduc rapidly increasing, with substantial gains expected from Lloydminster, and the Princess and Hanley region, Western Canada has an excellent prospect of setting a brand new record. Production can well exceed the 10,714,000 barrels produced in 1942, when the Turner Valley field reached its peak.

By the end of December 1947, Western Canada's cumulative oil production stood at 100,217,274 barrels. Of that total, Turner Valley accounted for 9,260,168 barrels. The Valley's 1947 yield was 5,449,375 barrels. Other Alberta sources showed a cumulative of 4,183,507 barrels, of which 1,333,710 barrels were produced in 1947. Saskatchewan's oil area has a cumulative of 688,560 barrels, of which 234,801 barrels were produced in 1947. Imperial's Norman Wells field in the Northwest Territories produced 208,298 barrels in 1947, to raise cumulative to 2,394,003 barrels.

LEUDUC, 1947's major oil discovery, was producing 3,222 barrels in December, is now over 5,000 barrels daily, and may reasonably

be expected to climb to about 70,000 barrels daily by the end of this year.

The Lloydminster area, which started 1947 with a daily yield of 845 barrels, had climbed to 3,741 barrels daily in December. Provided market expansion plans are successful, the field may climb to between 8,000 and 10,000 barrels daily by the end of this year.

The Princess-Hanley region, which started 1947 with 154 barrels daily, was up to 569 barrels per day in December. Development of the recent Hanley discovery and continuing development at South Princess may very materially increase production by year's end.

TURNER VALLEY, still Canada's No. 1 oilfield, started 1947 with a daily yield of 16,258 barrels, dropped to a low of 13,173 barrels daily last August, and then commenced a slow climb, principally due to completion of a few better-than-average wells by Home Oil. In December, the Valley's daily yield was 14,916 barrels, an increase of about 1,300 barrels daily over August.

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PLAYS KEY ROLE IN ALBERTA OIL

HOLDING 2,236.5 acres of productive leases in Turner Valley, on which are 18 producing Okalta wells and 24 producing wells that pay Okalta royalties. . . 1,440 acres in the proven Leduc field, 640 acres of which are within 2 miles of Imperial Eyo. . . 4,360 acres on the Keho Lake structure . . . 440 acres at Taber . . . 160 acres at Del Bonita . . . and 2 1/2 sections filed on at Pincher Creek, adjacent to the Gulf Oil project.

Start Second Test of Acreage at Leduc . . .

LOCATED on Led 10, sec. 33, Twp. 49, range 26, W. 4th, Okalta Leduc No. 2 is rigged up and starting to drill this week-end for a second test of the semi-proven section of the Leduc oil field. This site is located in the heart of a 240-acre block of Okalta leases.

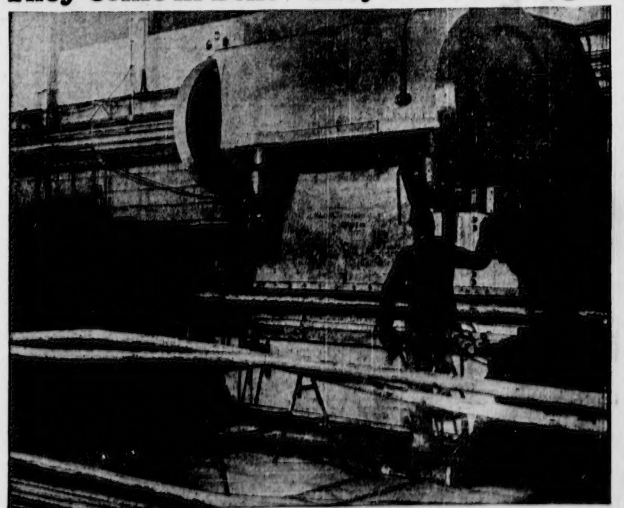
THE COMPANY owns two heavy duty rotary steam drilling rigs in addition to two standard rigs and a diesel-powered portable drilling rig. Founded by the late W. S. Herron, first to recognize the possibilities of Turner Valley as an oil field, the Okalta Company has continued to play a dominant part in the development of the Province's oil resources.

Today, guided by his sons, W. F. and W. S. Herron, the same aggressive policies are being carried out.

OKALTA
OILS LIMITED



IT'S A STRAIGHT TIP . . .
TAKE IT TO HOOVER
They Come in Bent—They Go Out Straight .



Part of Our Shop Equipment—A 30-ton Brake Machine

HOOVER
MACHINE COMPANY LIMITED
MUNICIPAL AIRPORT — EDMONTON, ALBERTA
MANUFACTURERS OF HEAVY INDUSTRIAL EQUIPMENT



Just one oil derrick costs a fortune. The one shown in the accompanying diagram is not the largest rig used in the field but its main parts add up to a total of nearly \$150,000. Drilling costs are not included and the cost of erecting the derrick is not so much as estimated either. Truly the money spent on bringing in a new oil producing field is a staggering gamble.



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LIMITED
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Refining Oil Costly, Technical Process

Conversion of Crude Into Usable Products Presents Difficulties

Amongst those who undertake to tell the story of petroleum there is a tendency to shy away from the subject of refining.

Perhaps it is a natural tendency, for the refinery man, stuffed to the gills with chemical formulas and the terminology of engineering, has a feeling that his particular phase of the industry is so highly technical that he can never hope to interest, far less instruct the layman.

ON THE OTHER hand those who have never treated the field of cooking petroleum are so overwhelmed by these same technicalities and the jargon of research chemists and practical refiners, that they give the subject a wide berth lest they expose their own ignorance. The result is that, in many books on oil and in innumerable speeches, refining is dismissed with an airway of the hand and left largely to the imagination, giving rise to the impression that, after spending enormous sums on exploration and drilling for petroleum, the oil industry has merely to sit back whilst some benevolent genie converts the crude into usable products.

If we realize that the millions of dollars which Imperial Oil Limited has spent in exploration and drilling in western Canada would only suffice to build and equip a very modest modern refinery, we begin to see refining in its true perspective and recognize the necessity for at least a tentative glimpse into its mystery, even although we may be rushing in where angels fear to tread.

SO, RELYING on the sympathy of the laymen and the forbearance of the technical men, we seek to draw aside the veil.

Petroleum is a complex hydrocarbon mixture, that is, with the exception of a very small percentage of impurities, it consists of hydrocarbons and carbon atoms in numerous combinations, each representing a particular chemical compound.

These compounds are grouped according to the number of carbon atoms they contain; for instance the group from which gasoline is recovered might have as low as four carbon atoms, whilst the group which forms the basis for lubricating oils might have as high as forty. It is this variation in the carbon content which permits the refiner to sort out the various hydrocarbon groups and assemble them into useful products by distillation. EACH HYDROCARBON has a particular temperature at which it will boil, or change from liquid into vapor, and the more carbon atoms contained in the hydrocarbon, the higher the temperature required to vaporize it. Through the medium of

Impressive Sight as New Well Comes Into Production



One of the biggest producers in the Leduc sector. The above picture shows the impressive sight as the well No. 2, which "came in with a bang" last August.

and a still lighter condensate being progressively formed until, eventually, some of the lightest fractions pass out of the bubble tower without ever having been liquefied and are cooled and caught in a special chamber designed for that purpose. When the liquids on the trays reach a certain level, they spill through a down-pipe, to the tray next below where, meeting a higher temperature, they again vaporize and repeat their upward trek, leaving behind any heavier fractions which may have originally been carried too far in the tower. By this redistillation the several con-

densates become practically uniform in boiling range. The condensate from any given tray may be drawn off, through a pick in the side of the tower, as a sidestream product for further distillation in a smaller bubble tower before becoming a raw primary product. AS A RESULT of this distilling process crude oil has been separated into fractions, consisting of gasoline, water-white distillates, gas oils and reduced crude, which the refiner goes to work on to produce the final products. It would be tedious, and not very enlightening to the layman, to describe in detail the complicated processes by which these primary products are converted into finished articles. There is redistillation in column stills or vacuum bubble towers; there is washing in water, or by, or sulphuric acid; there is filtration, through clay or Fuller's earth; there are solvent extraction and dewaxing processes; there are refrigerating and sweetening processes, all designed for some particular phase in purifying and building up the ultimate product. THERE are separate plants to blend lubricants; to compound

greases; to prepare asphalt, or to incorporate the various petroleum gases for synthetic manufacture. Running the gamut of one or more of these processes, the transformation of the primary product is complete.

From the primary naphtha we get motor or aviation gasoline; ingredients for lacquers, floor waxes and paints; dry cleaning fluids; rubber solvents and lamp and stove fuel.

Water-white distillates are converted into kerosene or stove oil and long-burning oil for light-burners, railway signals and incubators. These same distillates are being groomed for more important functions: for, treated and blended, they will provide fuel for the turbo jet engine which is expected to revolutionize flying.

OAS Oils provide furnace fuels, high-speed diesel engine fuels, and domestic and industrial gas.

Reduced crude represents around 50 per cent of the crude originally introduced into the bubble tower and contains the lubricating fractions, heavy gas oil, wax, bunker fuel, asphalt and coke.

In practically all of the operations in which these products are recovered, a greater or lesser percentage of the various distillates is retained as cracking stock and destined to become cracked gasoline. There is a verse in the Bible which says "the stone which the builders have rejected is become the head stone of the corner" and this aptly describes the position of gasoline in the oil industry.

IN THE EARLIER days it was a rejected substance, something the refiner had to get rid of, by hook or by crook, before he could recover his precious kerosene. Now it is the keystone of the petroleum industry, and research chemists have racked their brains to discover ways and means of getting more and better gasoline out of every barrel of crude.

The answer has been found in cracking and this process, in some shape or form, has been the salvation of the industry, bringing it to keep place with the steadily advancing demand for gasoline and even meet the abnormal claim of mechanized warfare.

The story of cracking is one of those "Rags to Riches" episodes. Originally requested to the industry through the carelessness of a still operator, who, in 1861, left his kerosene, wrought-iron still unattended, it is now practiced in mammoth plants costing millions of dollars. Its secret and potency lie in the fact that high temperatures cause heavy oil to break down, or crack into light oil.

FIRST cracking was resorted to only in the recovery of a greater percentage of kerosene from the crude, but the introduction of the internal combustion engine and the growing army of motorized increased the demand for gasoline and

(Continued on Page 9)

TOUGH GO!

... but these engines are tougher

Above are shown two "Caterpillar" Diesel D17000 Engines providing power for drilling operations by Drilling Contractors Ltd. in the Leduc field.

Now On Hand For Immediate Delivery:

(All Prices F.O.B. Portia)

"Caterpillar" Diesel Engines D17000X (Enclosed clutch) —	\$17,750
D17000Y (Open clutch) —	\$17,850
"Caterpillar" Diesel Electric Sets	
D8800X (Enclosed clutch) —	\$2,750
D8800Y (Open clutch) —	\$2,850
D211 2 phase, 40 cycle, 110 volt, radiator with fans, safety device —	\$2,337

Oil well drilling is a man-sized job but "Caterpillar" Diesel Engines are man-sized, too. They're built to stand rough and tough going, day in and day out, without coddling or undue attention. Delays are costly and there's too much at stake to rely upon anything but that which is absolutely dependable. That's why Caterpillar Diesels are found in oil fields around the globe—that's why any oil man is wise to put his power problems in our hands for prompt solution.



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—Sir Stephen LEHARD, late President Vancouver Stock Exchange

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Lands Minister Says:

Alberta Oil Picture Now Better Than Ever

By Hon. N. E. Tanner

Already in these early weeks of 1948 it is possible to paint a brighter picture of the Alberta oil situation than at any time since 1942. It is true that the path of the annual production curve still appears to be downward; true that as the year closed the daily average curve was following the same line; but the monthly production curve has been headed upward since and including October, and the daily average since September.

While the Turner Valley production, at 5,485,755 barrels, is well below the preceding year's 11,972,686 barrels, the performance in other and newer fields accounts, for the most part, for the present cheerful scene. The latter is shown in Table A which indicates and the former in Table B. All quantities shown are barrels of 35 Imperial gallons.

As was the case a year ago, the immediate zone accounted for a good deal of the production decrease. The 1944 production from this zone at 3,025,474 barrels represented a drop of 1,077,113 barrels from the preceding year. At that time this was somewhat compensated by production from the shallow zone amounting to 6,866 barrels more than in 1944 by 4,596 barrels or about 5.5 percent. But in 1947 this was almost entirely offset by the shallow zone's production of more than 4,500 barrels.

On the other hand, fields elsewhere, with some minor exceptions, showed increases in production. The only exception which cannot appropriately be mentioned is the Vermilion field where production, which had already been on the decline, dropped to only 45,545 barrels for a total production of 138,461 barrels. In other fields other than the Turner Valley and the Leduc are shown in Table C.

THE EPIC of the year, of course, was the story of the Leduc field. At the time of last year's review this was unheard of. It was dreamed of, perhaps by some in the occult circles of geologists. By the year's end it had reached the proportions of a major field and no one yet had reached the boundaries either upon its area or its production. On Feb. 13, 1947, Imperial Oil Limited brought in the discovery well which in the remaining half month produced 4,197 barrels. By the end of May the field had produced 7,265 barrels, by the end of June 17,361 barrels, and from then to the end of October production practically doubled to itself every two months. By the year's end it had attained to 39,739 barrels—some 25-fold its initial output of only ten months earlier.

While the circumstance, does not belong to the period under review, the coming in of Woodhead in January of the present year is no significant to be completely ignored. Three and a half miles to the southwest of the Leduc discovery well, Woodhead may mark an extension of the Leduc field or it may be the discovery of what might turn out to be an oil field in its own right. If the former is suggested, an area more vast than the explorers' most fantastic dreams. If the latter, the possibility of other Leducs and other Turner Valleys still to be explored.

TABLE D TELLS the tale and a half century history of the Leduc field in a few figures.

Revealing the performance of Leduc in the Lloydminster field, at the present time in the latter in 1946 this field more than doubled the preceding year's output to attain 75,187 barrels, but this result, gratifying though it was, was eclipsed in 1947 when the field's production was almost exactly quadrupled to make 304,707 barrels. The year's production on the Saskatchewan side was 53,054 barrels, an increase over 1946 of 298,751 barrels—the increase alone



HON. N. E. TANNER

almost triple the whole of the previous year's output. Producing an asphaltic oil of gravity 14 to 18 degrees API, the field, which is contained in production in 1930 attracted little attention. It is the third largest field, in terms of production, in Alberta, Canada. Its monthly output in performance for the year under review and in the preceding year is shown in Table D.

TABLE E summarizes the data the story of Alberta oil from its commencement in 1914 until the end of the year just closed.

Vast Oil Area Awaits Exploitation

Tar sands, oil sands, or bituminous sands as they are variously called, lie along the banks of the Athabasca river, in the north-eastern corner of Alberta. Proven tar sand areas total 30,000 square miles. A traveller on the Athabasca River will notice these sands, by the dark-brown or black color and the strong asphaltic odor. If a handful of these sands were scooped up it would be noted that each grain of sand is surrounded by a sticky, fatty substance. The magnitude of this discovery is hard to imagine. For in these sands, easily adaptable to open-pit mining, the United States Bureau of Mines estimates oil reserves of over 250 million barrels or 10 times the proven resources of all the oil fields in the world.

Processes for the recovery of oil and asphalt products are past the experimental stage. A plant with a capacity output of 400 barrels a day is under construction at Bitumount, Alberta. Tests show that 23% of this oil can be made into 100-octane aviation gasoline, and 17% into 80-octane motor gasoline. The oil-recovery content of the sands is as high as 25%, with some of the oil output area carrying from 100,000 to 125,000 barrels per acre.

The limiting factor is the cost of the separation process, and cost of transportation to major markets. The Alberta Government through the Alberta Research Council, is conducting intensive experiments to bring down the cost of separation. Once an easy, inexpensive method has been found, and established, the output of the fields in volume alone will bring down transportation costs. Even now, the sands are being used as a natural material and unrecycled road-surfacing material.

TABLE A Alberta Oil Production

Month	1946	1947	Changes
January	660,645	563,172	-97,473
February	500,261	394,847	-105,414
March	644,263	542,171	-102,092
April	601,353	523,900	-77,453
May	589,018	569,575	+20,557
June	582,149	549,720	-32,429
July	591,712	573,489	-18,223
August	573,489	554,600	-18,889
September	563,824	557,397	-6,427
October	583,128	618,711	+35,583
November	574,214	671,113	+96,899
December	564,697	671,306	+106,609
Totals	7,137,080	6,809,755	-327,325

TABLE B Turner Valley Production

Month	1946	1947	Changes
January	462,622	413,367	-49,255
February	413,367	344,465	-68,902
March	413,367	344,465	-68,902
April	413,367	344,465	-68,902
May	413,367	344,465	-68,902
June	413,367	344,465	-68,902
July	413,367	344,465	-68,902
August	413,367	344,465	-68,902
September	413,367	344,465	-68,902
October	413,367	344,465	-68,902
November	413,367	344,465	-68,902
December	413,367	344,465	-68,902
Totals	5,017,292	4,548,725	-468,567

TABLE C Production From Fields Other Than Turner Valley and Leduc (Quantities in Barrels)

Month	1946	1947	Changes
January	206,096	203,236	-2,860
February	198,131	198,131	0
March	198,131	198,131	0
April	198,131	198,131	0
May	198,131	198,131	0
June	198,131	198,131	0
July	198,131	198,131	0
August	198,131	198,131	0
September	198,131	198,131	0
October	198,131	198,131	0
November	198,131	198,131	0
December	198,131	198,131	0
Totals	2,461,131	2,461,131	0

TABLE D Oil Production From the Leduc Field (In Barrels of 35 Imperial Gallons)

Month	1946	1947	Changes
January	4,197	4,197	0
February	4,197	4,197	0
March	4,197	4,197	0
April	4,197	4,197	0
May	4,197	4,197	0
June	4,197	4,197	0
July	4,197	4,197	0
August	4,197	4,197	0
September	4,197	4,197	0
October	4,197	4,197	0
November	4,197	4,197	0
December	4,197	4,197	0
Totals	37,327	37,327	0

TABLE E Oil Production From the Lloydminster Field (Quantities in Barrels)

Month	1946	1947	Changes
January	3,904	4,461	+557
February	4,461	4,461	0
March	4,461	4,461	0
April	4,461	4,461	0
May	4,461	4,461	0
June	4,461	4,461	0
July	4,461	4,461	0
August	4,461	4,461	0
September	4,461	4,461	0
October	4,461	4,461	0
November	4,461	4,461	0
December	4,461	4,461	0
Totals	53,054	53,054	0

Plan to Penetrate "Hard" Regions

New oil claims to penetrate "hard-to-reach" places, said to be especially useful on hoisting and elevator cables as it will lubricate all strands thereby reducing friction under strain. U.S. maker says oil will penetrate rust to ease tightening of cables. It is being used in new or re-bored cylinders, can be used under all climatic conditions.

In Year 1880

Imperial Oil Company Formed by Small Group

In the year 1880 a group of seven small refineries located in and around Petrolia and London, Ontario, pooled their resources and organized The Imperial Oil Company Limited. The company changed to Imperial Oil Limited. These were men of courage and foresight, and their aggressive sales policy soon made Imperial Oil the leading supplier of petroleum products to the nation—a position which the company has maintained to this day.

The years immediately following the company's organization saw the beginning of the tremendous growth of the west. In line with the company's policy of making its products available wherever there was a demand for them, the company set up marketing branches to serve the needs of the west.

The first office and warehouse was established in the year 1881 at Winnipeg. By 1884 a bulk station had been erected at Prince Albert. In 1886 the company appointed a commission agent, at New Westminster, B.C., to look after the needs of the residents in the fertile Fraser Valley. By 1889 the railway—Canadian Pacific, Grand Trunk Pacific, and Canadian Northern—were laying miles of track across the prairie. At this time Imperial Oil had 35 subsidiaries reaching west from Winnipeg to Vancouver.

Gasoline was just beginning to be recognized as a useful product and more and more cars rolled over the roads. It was interesting to note here that what is thought to be the first service station in North America was installed by the Vancouver sales branch. Ordinary rubber hose was used to carry gasoline from a small tank to the cars.

To facilitate distribution of refined products the company set up a series of marketing divisions, each of which has complete jurisdiction over its own area. In each division there are various grades of distribution centres according to the needs of the district. Products received by bulk shipments or in packages from the refineries are

EDMONTON BULLETIN: Wednesday, Feb. 15, 1948

agents for ultimate distribution to the consumer.

EDMONTON, Feb. 15, 1948. The advent of the motor car had a profound effect on the economy of the west. It opened up large areas remote from the railways. Villages and towns far distant from the railhead built petroleum depots. The motor car was the first to be served by large capacity tank trucks. The widespread use of mechanized agricultural equipment in the west was early facilitated by Imperial's marketing organization.

10 NEW "HOME" WELLS FOR LEDUC FIELD

Leduc Field

First of Home Well brought into production December, 1947. Second Home Well now nearing completion.

Location for third Home Well already selected and permit applied for.

Turner Valley

Company has 30 producing wells in Turner Valley.

First of the wells planned for 1948 already brought into production.

Second and third 1948 wells already being drilled.

Fourth of the five wells planned for 1948 expected to be in production this month.

Other Areas

The company is continuing its exploration program in the Edmonton, Leduc, and Leduc fields.

Imperial Oil Company Limited, 100, 102 and 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 764, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794, 796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000.

For 1948 Home Oil Co. Limited has announced a program of 10 new wells to be drilled in the Leduc Field and five in Turner Valley. This total of 15 new wells will aggregate an approximate cost of \$2,000,000.

HOME OIL COMPANY LIMITED

HEAD OFFICE: LOUGHLEIGH BLDG., CALGARY, ALTA.

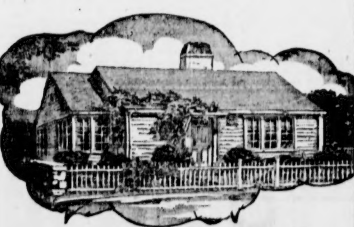
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...our ever growing popularity as "YOUR FAMILY SHOPPING CENTRE" and our policy of everyday low prices for fine quality merchandise and tasty foods is reflected by the many satisfied customers that file in and out of this Big Busy Shopping Centre.

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When Drilling Started at Imperial No. 2



Above are scenes taken near Leduc last year when the search for oil was just beginning. Photo No. 1 shows a 100-foot derrick in position at the site of Imperial No. 2 well. Photo No. 2 shows the crew at work making repairs at the Imperial No. 1 discovery well. Photo No. 3 shows George Tush, veteran Imperial driller, just after he and his crew had brought the No. 1 well into production.

Fish Through Ice From Comfy Huts

ALLANVALE, Ont., Feb. 18.—(CP)—With most prices climbing beyond family budgets, about 40 people in this district follow a sporting method of augmenting daily protein rations. Sitting in snug little huts, they spend their spare winter days pulling whitefish out of holes in Lake Simcoe's frozen surface.

Every winter, at the beginning of January, they haul their runner-mounted huts out over the lake and choose their spot. It's a heavy job to pull the plywood or frame canvas huts a mile over the ice but the fishermen are clamish folk and usually work in groups. While the wind howls across the lake and the huts are warmed by a tiny coal stove set on a built-in shelf on the wall, about a foot above the ice.

One group has a trick of its own for luring fish onto hooks. Into a coffee can with holes punched in the bottom boiled rice is placed. Then they lower the can, upright, down to the bottom and with a sharp tug on the line, upset the rice. The whitefish gobble the rice and occasionally the fish-

men's hooks, baited with salted minnows.

Like many other sports, ice fishing has its hazards. As long as the weather is cold and there is a 10-inch floor of ice under the hut no one worries, but a sudden thaw can be disastrous. And signs of a blizzard are the fishermen's cue to get off the lake in a hurry.

A fair day's catch is about five whitefish, which can be sold at good prices, or go to the home table to keep down the cost of living. But the profit motive is not a compelling one for many of the fishermen, who will often present part of their catch to non-fishing neighbors.

Texas Co. Takes New Stock Issue

The Texas Co. has exercised its rights to subscribe to the new capital stock recently offered by McColl-Frontenac Oil Co. on the basis of one new for every two shares held. J. M. Pritchard, President of the McColl-Frontenac, announced.

The Texas Co. has paid a subscription of \$4.5 million in U.S. dollars which has been converted to Canadian funds in the oil market, Mr. Pritchard added.

Dynamite Blasts Tell Story

Seismologists Point Spots Where Oil Is Likely Trapped

Grouped around a table in an office on 100A St., in Edmonton, are a group of men who can take a very large portion of the credit for discovery of Edmonton's famous Leduc oilfield.

OFFICIALLY THESE men are known as seismologists, employed by Imperial Oil Limited (exploration department).

Whether or not they were responsible for the location of Imperial Leduc No. 1 they certainly played a large part in its selection, and aside from that their work is among the most fascinating of any of the groups who seek oil. For these are the men who go about the country making miniature earthquakes with dynamite. In order to find rock traps beneath the surface.

Seismic crews have been working out of Edmonton steadily for the last two years. Many persons have seen light trucks carrying a sign, back and front, bearing the single word "Explosives". Nothing else is necessary—these vehicles get a wide berth. Actually the dynamite they carry is harmless so long as it is properly handled.

Most of the towns around Edmonton have been visited by seismic crews and the crews and their families have lived in many of them.

At present a crew is working the Sanguine-Mayerthorpe area, and several families are quartered at Sanguine. Imperial Oil alone has some five crews working in the foothills and plains of Alberta.

A complete crew requires about 30 men. They have specialized and varying talents. There are geologists, civil engineers, electrical engineers, geophysicists, "dynamite" men, drillers and computers.

They also use specialized and varied equipment: portable drilling rigs that fold down over big trucks; dynamite trucks; seismograph equipment to record the earthquakes, "walkie-talkies," a miniature photographic laboratory, and a variety of trucks.

IN SPITE OF ALL THIS the object of the crew is fairly simple. Oil, they know, keeps moving upward in the earth until it is trapped in a formation which may be like an inverted gray bowl, trap, anticline or similar object. Just as surely as the trap will hold oil when right side up, the anticline down trap rock formation in the earth will catch and hold the oil moving upward—providing there isn't a leak.

The seismograph crew tries to find these rock formations. They do this by drilling holes perhaps a hundred feet down to the bedrock, tamping down a charge of dynamite, and exploding it. When the explosion occurs it makes a miniature earthquake. It sends shock waves travelling in all directions.

From each layer of rock below waves bounce back just as a rubber ball would bounce off pavement. At the sound truck, located some distance from the dynamite truck, the waves are recorded in the form of wavy lines on long strips of photographic paper.

A SEISMOGRAPH crew may do either general or detailed work. In general work, which is done to narrow down the area under exploration, a crew might cover 15 townships, drilling a "shot hole" every mile in a great loop. On the basis of this information they might run smaller loops until they had a "seismic picture" of the rock trap they were seeking beneath the surface.

This was done at Leduc, and the men who interpreted the results believed that there was a dome-like mass about 500 feet beneath the surface. This, they said, might be an oil trap.

The results are well known; the formation was encountered just a few feet from where the seismologists said it would be, and it did contain oil. There are many unknown factors and many chances for error, and they are not always so accurate. Even now, only the drills can determine whether there is a field or just an isolated pocket of oil at Leduc.

ON THE PLANS where there are roads the work is relatively straightforward. Crews carry rations of tinned goods in case they are snowed in, and a bulldozer to open roads in standard equipment in most cases. Sleeping bags, extra gasoline supplies, snow shovels and similar equipment also testify to the fact that "shot-holing," as it is known in the oil industry, is no job for a tenderfoot.

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company has built its own self-contained portable camp. When a crew disappears into the foothills it builds its own winter roads, drags its own living quarters and equipment, and comes blizzard or paralyzing cold it doesn't ask for quarter until it has battered its way around a predetermined course and back to civilization again.

IN THIS WAY last winter a submarine unit worked the Muskeg area northwest of Edmonton, where five companies are now engaged in the contest of oil exploration enterprises ever attempted in Alberta.

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Independents Play Big Part at Leduc

While Imperial Oil Limited gets credit for the discovery well and the most producers, and C. C. Cross, Calgary, takes second bid for his company's successes on the field's extremities, several other companies also enter the picture of the Leduc-Calgary sector of the Edmonton oilfield.

Allstate Oil, a company that bought into the heart of the field for \$200,000, has three insured operations. All these are reported strong producers. Home Oils have two producers. One of these is a 133 twin of the company's first D3 producer. Both these companies are undertaking promising drilling programs.

Continental Oil Company of Canada's first producer extended the field a quarter of a mile south and proved to be one of the strongest wells in the field. The company has completed work on two other wells and is starting a 16-well program.

Leduc Consolidated started out with two unsuccessful wildcats on the east side of the field before finding success with its third well. The company of Central Leduc also boasts an east side producer. Both firms have scheduled additional programs.

Homestead and Okalla had pioneer failures in the field but during the month both announced plans for continued drilling programs in the field. Homestead joined with New Ranchman at a wildcat venture scheduled for a location 1 1/2 miles from the Edmonton and Country Club.

British American Oil was not successful with its first Pyrex well. Since that time this major company has announced a close tie-up with Continental Oil.

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Mud Engineer Holds Key to Well Success

On of the prime requisites of a successful oil well is its "mud engineer."

ON THE SKILL and knowledge of this man hinges an investment that may mean a booming well or the loss of a \$100,000 investment.

When oil is first located, as at the Leduc field, the sheer weight of the mud beneath the earth's surface keeps the oil under control by its constant pressure.

In order to do this, mud, of necessity, must be the right consistency; as all oil jobs do not require the same type of mud, it is here the mud engineer comes to the fore.

A skilful engineer on the job has a variety of chemicals to choose from as an antidote to keep his mud at just the right consistency. There are variations in the earth that cause mud to thicken or thin to a more "goo" which seizes

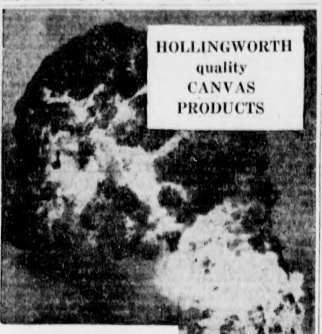
STICKS TO DOBBIN

SAINT JOHN, N.B.—(CP)—The eight bore-drawn plugs used to repair Saint John sidewalks of snow are still the "best and cheapest" method of clearance, H. J. Rogers, city director of markets and sanitation said.

FIND ANCIENT STATUE

COLCHESTER, England.—(CP)—A second century bronze statue of the Roman god Mercury, said to have been dumped by a plowman as useless, was found here.

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Oil Refining

(Continued from Page 8)
cracking became more or less general.

The first successful attempt to utilize cracking for the recovery of gasoline was made in the United States in 1913, by Dr. William M. Burton. His process required a heavy, cylindrical steel tank in which a batch of heavy oil was strongly heated for 24 hours, under a pressure of 75 pounds to the square inch. This induced cracking and the lighter oils were removed from the still by ordinary distillation processes. Nearly half of the cracked product was gasoline.

Imperial Oil Limited introduced cracking to Canada by installing Burton stills in its Sarnia refinery in 1914.

BUT THE BURTON process, handling oil in batches, was too slow to satisfy the insatiable, mass of the rapidly-increasing number of motor cars. In 1925 a continuous process, called the tube and tank process, was put into operation at Imperial's Calgary refinery. In this instance the oil is heated to 900 degrees and passed through a large steel chamber, called a snake, under high pressure. There the oil cracks and the process being continuous, production is speeded up.

But even began to take to the air to a much greater extent; cars not only multiplied, but engine refinements were introduced which

shouted aloud for better gasoline to combat knocking. The tube and tank process refused to stand the strain because the higher temperatures and lower pressure necessary to produce a fuel suitable for high compression engines, gummed up the works by plugging the furnace pipes with coke.

The research chemist dipped into his bag of tricks again and came up with the catalytic cracking

process. This PARTICULAR brand of black magic introduces a foreign substance into the oil which, itself remaining unaffected, influences the finished product to a remarkable extent.

Excessive heat destroys certain components of crude oil. The presence of a catalyst avoids the necessity for excessively high temperatures, while yet assuring the benefits which excessive heat would give. That is more and high grade gasoline from a barrel of crude. Recourse to catalytic cracking permitted the oil industry to meet the abnormal demands for high octane gasoline during the war and allows it to contemplate the expanding needs of aviation and transportation with equanimity.

Engineer Houdry pioneered catalytic cracking in 1906 with the help of the Soco Vacuum and Sun Oil Companies. Imperial Oil adopted suspended catalytic cracking in 1940. The Standard Oil Co. (N.J.) introduced its fluid catalytic cracking process in 1941. The Thermofor or T.C.C. process was announced by the Sun Oil Company in 1942.

THE HOUDRY is what is called a fixed bed process. The catalyst consists of layers or beds of pellets, impregnated with metallic oxides, over which the vaporized oil passes at a temperature of 400 degrees

Guides Provincial Destinies



Head of Canada's richest oil province is Premier Ernest Manning of Alberta. The premier predicts a bright future for this province as its oil fields continue to expand, yielding hundreds of thousands of dollars to the provincial treasury, and assuring Alberta a prominent spot in Canada's economic structure.

and a pressure of seven to 15 pounds.

The T.C.C. process also utilized impregnated pellets, but these fall in a constant stream from the top of the reaction chamber, meeting the uprising vapours.

The fluid catalytic process is radically different, for the catalyst is a finely-ground material or synthetic clay, fluffed up with air or gas so that it flows like a fluid, and is mixed with the oil on its way to the reaction chamber, at a temperature of 900 degrees F. and pressure of 15 pounds.

IMPERIAL OIL is building an enormous plant at Montreal, popularly referred to as a "cat cracker," to give Canada its first taste of the fluid catalytic process.

These various cracking processes result in a recovery of from 40 to 50 percent of 80 octane gasoline which, by re-refinement and the addition of tetraethyl lead, provides a large portion of 100 octane aviation fuel.

Back in 1934 Imperial Oil started experimenting with a catalytic cracking process known as suspended. This process was developed at Sarnia during the war, as it could be carried out in converted tube and tank units, thus saving much critical material and the valuable man hours which would otherwise

be aviation gasoline, particularly under heavy load conditions.

Petroleum's best-known contribution to synthetic, outside of the fuels, is probably in the manufacture of synthetic rubber at the Sarnia plant of the Polymer Corporation.

THIS PLANT separates and purifies selected gases from Imperial's adjoining refinery and processes them into various types of rubber, one most suitable for tire treads and another, with marvelous elasticity for retaining air, largely utilized for inner tubes.

Dorens of industries, in many widely divergent lines of manufacture, will get their raw material from the petroleum industry, now that the costly equipment is installed and available to separate and purify these olefin gases.

There are other petroleum gases besides the olefins which hold out equal promise for the future.

Methane, for instance, the simplest of all petroleum gases and the chief component of natural gas, can be changed into a kind of crude oil by heat and catalysts. This is accomplished by the Fischer-Tropsch process, the discovery of German scientists, and only the cost of the plant and operation stands in the way of this synthetic product competing with crude oil from wells.

EDMONTON BULLETIN: Wednesday, Feb. 18, 1948

cheer-Tropsch process, the discovery of German scientists, and only the cost of the plant and operation stands in the way of this synthetic product competing with crude oil from wells.

Imperial Oil has drilled a succession of wells in Alberta and proved considerable reserves of natural gas which may, one day, help to solve Canada's oil problem via the synthetic route.

A LIQUIFIED petroleum gas, propane, has a large market in the U.S.A. and is making its debut in Canada. It is liquefied merely to facilitate transportation in metal cylinders and is used in the same way as gas from the city mains, in the home, in industry, and as a community gas supply, comparing favourably in cost and heating qualities with manufactured gas.

It would be impossible to catalogue the uses, more than 300 finished products which, as a result of the operations we have so briefly and inadequately traced, find their way, from an oil refinery, to every remote hole and corner of our homes.

Detail Methods To Bend Tubing

Occasionally when a mechanic is joining sharp bends in tubing while making up gasoline, oil or hydraulic brake lines, the tube collapses under the pressure. The following "tip" may prove useful.

Take a length of old, inside speedometer cable, coat it with grease and insert it in the tubing. The bend can then be forced without flattening the tubing. When you have completed the bending task, the cable can be easily withdrawn.

Our factories, our farms or our modes of transportation.

Although we have only touched the highlights, perhaps these have been sufficient to suggest the tremendous concentration of scientific research and applied skill which the industry devotes to getting the most of the best out of petroleum.



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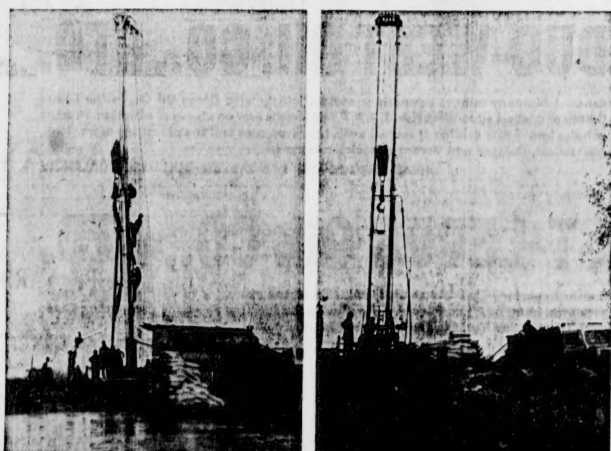
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Globe-Leduc West No. 4
Globe-Leduc West No. 8
East Leduc-South Brazeau No. 1
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● EAST-LEDUC OIL CO., LTD.

Now drilling the important East-Leduc No. 2 well. Completed successes to date are East Leduc-South Brazeau No. 1 and East Leduc-South Brazeau No. 3 wells, now on steady production. Listed on Vancouver, Calgary and Toronto Stock Exchanges.

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Pipelines Are Mooted

Alberta May Become Big Gas Exporter

By Ken McNeil

CALGARY, (CP)—Alberta, long the largest coal producing province in Canada, one day may be the dominion's chief exporter of another heating fuel—natural gas.

Since the turn of the century residents of the neighboring provinces of British Columbia and Saskatchewan have watched enviously as increasing numbers of Albertans blithely endured the worst rigors of winter without worry over disposal of clinkers or ash. Now they, together with the residents of Manitoba and even Ontario, have awakened to the possibilities of the vast natural gas fields in the foothills' province.

TWO SEPARATE plans now are under way to tap Alberta's gas fields with pipelines that would carry the gas eastward through Saskatchewan to Brandon and Winnipeg, and westward over the Rocky mountains to Vancouver and the northwestern United States.

Combined cost of the two projects has been estimated at more than \$125,000,000.

But before these ambitious plans materialize, a vast test-drilling program costing many millions of dollars may be necessary. Only sketchy information is available on the full extent and capacity of Alberta's gas fields, stretching from the Fort McMurray district some 250 miles northwest of Edmonton south to the United States boundary.

ALBERTA'S GAS reserves are felt to be tremendous but competent oil engineers emphasize that several wells must be drilled in any one given area before its potential capacity can be accurately determined. Present "proved" fields, they claim, are required to meet Alberta's own requirements. Natural gas for export purposes will have to come from areas now under investigation.

And "proving" a field is a costly process. Practically all the known promising gas fields are located in areas requiring deep drilling. Cost of drilling a single well in such an area calls for an expenditure of \$125,000 or more. To gain even a rough idea of the reserves in any single field would require an expenditure of more than \$1,000,000.

ONE PROJECTED pipeline would extend from Alberta about 700 miles eastward through Moose Jaw, Sask., and Brandon, Man., to Winnipeg, with branch lines serving Regina, Prince Albert, Saskatoon and other intermediate points. Col. L. D. M. Baxter of Winnipeg, head of a private organization, said his group is prepared to undertake financing to the extent of \$45,000,000.

Some Ontario centres, mindful of the recent gas shortage in the southwestern section of the province, have suggested that the line be extended into Ontario.

The second pipeline is proposed by the Northwest Natural Gas Co. of Delaware, and calls for a \$18,000,000 main line of 24-inch steel pipe stretching from southwestern Alberta to Seattle with an 18-inch

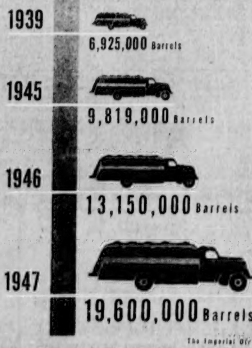
branch line 130 miles long to Vancouver and other B.C. points.

LATERAL LINES would serve Washington and Oregon centres. The government has never stated what reserves it considers necessary before export of gas would be allowed.

Many Alberta residents wonder what effect the proposed export programs would have on the development of their foothill province. They fear export of Alberta's natural gas may cause industries to be established in centres served by the pipelines outside the province, which otherwise might be attracted to Alberta.

One of the most famous Alberta users of natural gas is the city of Medicine Hat. The first productive gas well was drilled there in 1930 and Medicine Hat quickly grew into an important industrial centre.

CONSUMPTION OF FUEL OILS HAS ALMOST TRIPLED SINCE 1939



Tight Fuel Oil Situation Caused by Heavy Demand

Canadians are using three times the quantity of fuel oils they consumed in 1939—and this demand is the principal factor in the current tight heating oil supply situation, according to an article published recently in the Imperial Oil Review.

USING 1939 EQUALS 100 as a base index, the article states that the oil industry's supply index for 1946 was 190 and Imperial Oil's was 218.5. In 1947 the index for the industry was 283, and 320 for Imperial.

Shortage of supplies is cited as a serious impediment to expansion of facilities badly needed to keep production, transportation, refraction and marketing of petroleum products up to the unusual demand.

To increase oil supplies, Imperial is importing more crude from Venezuela and running it through a pipeline line from New York to Sarnia, building tankage for an additional 16,000,000 gallons, mainly in Quebec, Ontario and British Columbia, building three new lake tankers at Collingwood, operating 2,500 more tank cars than in 1939.

IN ADDITION, the company has purchased five ocean-going tankers and is chartering extra ships to increase supplies. It has purchased the Whitehorse refinery and is re-equipping it at Edmonton to process

crude from Leduc, saving 18 months' time as against building a new refinery.

As a result of these efforts, Imperial expects to be able to look after its existing customers, but has not been accepting any new heating oil business since Jan. 15, 1947. The company has warned prospective heating oil users to secure themselves of a definite proportion of supply before installing any oil-burning equipment.

THE PRESENT tight situation is a temporary, not a permanent one, the story says. "Expansion programs now planned or in progress will restore the industry's margin of supply over demand, but at present the oil industry must go all-out to manufacture products and store them against the record needs."

"All available facilities, even though antiquated and expensive, must be used to serve the Dominion. Imperial is doing everything possible to balance supply with demand."



First crude oil to be piped from producing wells in the Leduc sector of the Edmonton oil fields was turned into tank cars at Nisku today, 14 miles south of Edmonton, on Nov. 1, 1947. The oil came through the recently completed pipe line from the field, cleaned and separated by a battery of tank farms in the field. The bottom picture shows G. M. Blackstock, chairman of the Board of Public Utilities Commissioners, pulling the lever starting oil flowing into the first of 23 railway tank cars. With Mr. Blackstock at the ceremony were Bruce Massey, Edmonton barrister, and another member of the Public Utilities Commission, and Whitney Sexton, manager of Imperial Oil Pipe Line Ltd. The large picture at the top shows the long line of tank cars that will transport the crude to refineries at Calgary and Regina. Each tank car holds 200 barrels and with the modern loading racks, alongside the C.P.R. tank spurs, eight cars can be loaded at a time, the operation for each car being about 20 minutes. There are 18 miles of pipe from the field to Nisku storage tanks, eight miles of which are eight-inch.

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Imperial Says Edmonton Area Best Known West Oil Section

WINNIPEG—Surface explorations within the last year by Imperial Oil only warrant the opinion that Stancho may be a potential source of oil. H. H. Hewitson, president of the company said here.

There is no intention of undertaking any experimental developments in the near future, Mr. Hewitson said, nor will there be until it appears that the province has more evidence of potential oil resources than other areas of Western Canada.

For the present, the company believes that the best field for western operation is in the Edmonton district of Alberta. The most promising source of oil in Manitoba seemed to be the southwest corner at the west end of what is known as the Williston basin.

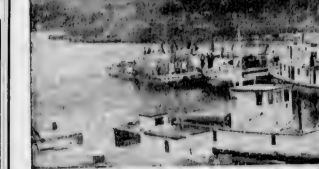
Mr. Hewitson estimated the potential of the recently discovered Leduc field at 50 to 100 million barrels, enough to rank it as one of the major fields of the continent. The company now has 12 producing wells in the field, which are giving 5,000 bbls. a day. By the end of the year the company expects to have enough wells in production to turn out from 4,000 to 4,500 bbls. a day.

Continental Holds Large Acreage

CALGARY, Feb. 18.—(U.P.A.)—The interests and holdings of Continental Oil Company of Canada Limited makes an impressive record, according to information released by officials of the company from the head office in this city today.

In addition to the acreage in Leduc and the more than 20,000 acres at Lloydminster, Continental owns one producing well in Turner Valley and royalty interests in 96 other producing wells in Turner Valley, a quarter interest in a producing well at Lloydminster, more than 3,000 acres in the Princeville-Steveston structure, more than 1,800 acres in the Taber area, and 23 other locations yet to be drilled in Turner Valley.

All of this valuable oil acreage is adjoining producing locations in these various Alberta oil fields, and was obtained under terms most advantageous to Continental shareholders.



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In Leduc Oil Strike

Farmer Among First To Gain Prominence

When Mike Turta, an Edmonton farmer, struck oil on his section of what is now a portion of the Leduc oilfield, little did he realize he was witnessing the first chapter in a new era of Canadian economic history.

THEN THE GREATEST OIL search in the history of Canada was on. With a score of major United States and Canadian oil companies allocating more than \$10,000,000 toward the goal of making the dominion self-sufficient in this essential commodity.

Word of the new field near Edmonton in Alberta, caused the oil fever to spread throughout Canada. Exploration is being pressed in Saskatchewan, southeastern Ontario and New Brunswick, areas which already contribute a tribute to Canada's oil production. Oil is being sought in ten entirely new areas: the Cape Peninsula in eastern Quebec and in western Manitoba.

Imperial Oil Limited, with 2,000,000 acres, has the largest lease holdings, including the largest portion of the Edmonton field. McColl-Fontaine, subsidiary of Teal Corp., has leased more than 1,000,000 acres.

Other lease holdings by the United States companies include Sinopec-Vacuum, Standard Oil of California, nearly 500,000 acres, and Gulf Oil, 100,000 acres. Less than 40,000 acres have been taken by a Canadian syndicate composed of Anglo-Canadian Oil Co., Monro Oil Co., and Calgary and Edmonton corporation.

Chief beneficiaries of the lease payments have been Hudson's Bay Co., Canadian Pacific Railway and the province of Alberta. In the Edmonton field, they own some of the land outright and the oil face rights to minerals on the rest.

The oil sands of northern Alberta are said to contain oil reserves totaling 200,000,000 barrels. Although vast sums have been expended in oil extraction has not yet proved successful in this area. But all experts are confident it soon will be.

Edmonton, straddling the border between Alberta and Saskatchewan has a proven reserve of approximately 1,500,000 barrels. Continental Oil Co. recently listed Husky Oil and Refining Ltd. is a large-scale exploratory drilling program in this heavy crude field.

Standard of California and Imperial struck oil in commercial quantities in November at Jansz east of Leduc. Reported to be the best well completed on the plains of southern Alberta, evaluation of this new discovery will be made later this year.

Nearly 2,000,000 acres of Manitoba crown lands have been allocated by the provincial department of mines in twelve reservations for the most thorough search ever undertaken in the province to determine whether it has oil or gas in commercial quantities.

British Columbia passed a new petroleum law last summer designed to stimulate exploration and development of provincial oil resources. Many of the impediments which discouraged companies from seeking oil in British Columbia were removed.

New Attraction Memorial Park

A replica of the original rig used by Col. Edwin L. Drake has been added as a new attraction to the strike was memorial park near Titusville, Pa. The rig was set up on the same spot where Col. Drake demonstrated that drilling was a practical method of producing oil in 1859.

The rig was dedicated June 1, 1947 by Edward Martin, governor of Pennsylvania.

Drake Well Memorial park, under the jurisdiction of the Pennsylvania Historical and Museum Commission, includes a tract of 200 acres of land, with a landscaped oval plot at the well sight. The location of the well on one side of the oval is now marked by the replica of the original Drake derrick and engine house. The monument, which was erected by the descendants of the American Revolution in 1914 to mark the well site, has been moved to the west side of the oval.

Gasoline line requires a small but attractive building in which is housed the Drake Museum containing all manner of relics connected with Drake.

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Changes in Income Tax Summarized

Revised and up-to-date, the 1948 edition of "How To Understand Your Income Tax" summarizes the more important changes in the 1948 income tax law and also includes many illustrations, based on the income tax departments to help inform the public.

The section dealing with "Income Tax" has been enlarged and "New Tax" forms are reproduced. Samples of completed T1 Special and T1 General forms are included. A new supplement

containing a list of dividends paid to Canadian companies in 1947 with information on any further changes made in the law affecting 1947 income and new forms that may be issued is available to all purchasers of the book who mail in a card enclosed with each copy.

Author is Lawrence J. Smith, partner of Smith, Roberts & Co., chartered accountants, Toronto, and the publishers Wm. Collins Sons & Co., Canada House 31, The book is especially designed for the individual, past members and unincorporated businesses.

Engelhardt brides take their first baths swirling in red veils to ward off evil spirits.

Congratulations to IMPERIAL OIL LIMITED on the First Anniversary of its LEDUC DISCOVERY

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BUS SCHEDULE



EFFECTIVE FEBRUARY 2nd, 1948

Edmonton Leduc Calmar Thorsby Warburg Breton

Trip No. 1 Read Up	DAILY INCLUDING SUNDAY	Trip No. 2 Read Down
Ar. 10:30 a.m.	EDMONTON	Lv. 8:00 p.m.
10:15	ELLERSLIE	5:15
10:30	NISKU	5:25
10:45	LEUCU	5:35
11:00	BRETON	5:45
11:15	CALMAR	5:55
11:30	BURFORD CORNER	6:05
11:45	THORSBY	6:15
12:00	SUNNYBROOK	6:25
12:15	WARBURG	6:35
12:30	BRETON CORNER	6:45
Lv. 8:00 a.m.	BRETON	Ar. 7:30 p.m.

Edmonton Devon Calmar Thorsby Genesee Lindale

Trip No. 1 Read Up	Daily Except Wednesday and Sunday	Trip No. 2 Read Down
Ar. 11:00 a.m.	EDMONTON	Lv. 8:00 p.m.
10:45	ELLERSLIE	6:30
10:30	NISKU	6:40
10:15	DEVON	6:50
10:00	CALMAR	7:00
9:45	BURFORD CORNER	7:10
9:30	THORSBY	7:20
9:15	TELFORDVILLE	7:30
9:00	ST. FRANCIS	7:40
8:45	GENESSEE	7:50
8:30	ST. FRANCIS	8:00
8:15	WARBURG CORNER	8:10
8:00	BRETON CORNER	8:20
7:45	CANNWOOD	8:30
Lv. 8:45 a.m.	LINDALE	Ar. 8:15 p.m.

All Times Are Mountain Standard
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SECTION 2

EDMONTON, ALBERTA, WEDNESDAY, FEBRUARY 18, 1948

Flare Eliminates Contaminating Agents from New-Drilled Well



When an oil well first "blows in" the oil and natural gas coming up from the producing formation below are contaminated with mud, water and chemicals used in drilling. The flow is turned into a flare and burned for a few minutes until the well cleans itself out. This is a common oil well procedure. Above is seen Imperial Leduc No. 3 blowing into production at approximately 5:20 p.m., May 21, 1947.

Has Two-Fold Effect in Canada

Leduc Discovery Outstanding Feature of 1947 Oil Picture

By H. H. Hewitson
President, Imperial Oil Ltd.
In The Monetary Times Annual, 1948

The outstanding feature of Canada's petroleum picture during 1947 was, undoubtedly, the discovery of Leduc.

Coming at a time when our major source of supply, Turner Valley, was evincing a decided reaction from war-weariness, Leduc had a two-fold effect: it stayed, to a limited extent, the decline in domestic production; it gave fresh impetus to the search for new fields.

THE START of 1947 found the oil industry on the horns of a dilemma. Demand showed every indication of continuing its upward swing; domestic supply threatened further decline.

The 10,000,000 barrels which flowed into the nation's tank from Turner Valley in 1942 had dwindled to 6,000,000 barrels in 1946 and that field, as delimited, had few undeveloped locations. The growth of production from the fields on the horizon was not nearly sufficient to counteract the decline of Turner Valley and deep tests in the foothills belt had been uniformly disappointing.

It was becoming necessary to go further afield for crude imports, with resulting increased carrying charges added to the rising cost of the oil itself.

UNDER SUCH circumstances any addition to domestic production would be of importance; a substantial addition would operate to the advantage of the industrial life of the nation.

It would be premature to hail Leduc as the ultimate answer to Canada's oil problem, even if it fulfilled the hopes of the most optimistic. It would take quite a number of large fields to adjust the balance between a demand of 11,000,000 barrels in 1946 which should be close to 10,000,000 barrels by 1950, and an available supply of some 7,000,000; but it can be said Leduc is the most significant and encouraging find since 1936, when crude oil was discovered on the "West Flank" of Turner Valley.

Leduc is a product of the great advance in the science of oil finding in comparatively recent times, and the application of that technology on a wide scale by the industry in Western Canada.

THE DISCOVERY WELL was located on the strength of geologic surveys and came into production on February 13th, producing from the Devonian time. Since then development has gone steadily ahead and our company expected to have twenty wells in production by the end of the year. Wells range in depth from 500 to 5,300 feet and the oil is of good quality.

From the outset we have voluntarily restricted our wells to what we consider to be a rate of flow best calculated to get the maximum ultimate production from the field and their average daily output is from 100 to 350 barrels each. In November the field was declared an administrative area by the Alberta Conservation Board.

EIGHT MILES of Birch pipe line has been laid connecting the

Imperial President



H. H. HEWITSON

field with Nisku mainline C.P.R. line between Calgary and Edmonton and delivery from the field is now immune from road conditions which, at times, hampered the movement of the oil by tank truck.

To meet the growing prairie demand, as well as to stimulate Leduc output, the erection of a refinery near Edmonton is in progress. Time being the essence of the contract we have secured the refinery at Whitecourt, Yukon Territory, and it is in the process of being conveyed to its new site. With some addition it will handle

6,000 barrels daily and will form the nucleus of a more complete plant as time goes on. This action will enable us to go on production eighteen months sooner than if we had designed and built a completely new refinery.

THE GROWING importance of the Leduc field has added a place-name to Alberta's topography and the oil town of "Leduc" should soon be a thriving community, housing the oil field workers and their families. It is contemplated that this town will have facilities for social, educational and recreational activities.

Leduc should be regarded as a stimulus to oil searching in Western Canada rather than as an indication that the opportunities are quired to find oil can be curtailed. Since the Discovery Well was drilled at Leduc last February a number of oilfield wells in other areas have been unsuccessful and have emphasized the need for encouragement of widespread exploration programs.

It now seems reasonable to hope that Leduc has added upwards of 75,000,000 barrels to Canada's proven reserves.

Senator Slain

MEKERO CITY, Feb. 18.—(AP)—Senator Ricardo Aguilar was shot to death today, Apolonia Perez, San Juan, investigating for the attorney general's office, said the senator was killed by two men who fired three shots into his back as he stopped to unlock the door of his

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"Extinct" Tree Found in China

CAMBRIDGE, Mass., Feb. 18.—(AP)—Seeds of a tree-bellied extinct for 100,000 years—have arrived at Harvard's Arnold Arboretum and soon will be shipped to botanical gardens in the United States and England.

Up to two years ago the tree-vent, a type of fir tree, was known only from fossil remains. The first living specimen was found

14 EDMONTON BULLETIN: Wednesday, Feb. 18, 1948

In January, 1948, by Chinese explorers in a remote valley of central China.

The seeds were obtained later by an American expedition which located 100 more megaliths, described as more than 100 feet high with 7½ foot trunks. Although some of the tree lines are in place in winter.

Dr. E. D. Merrill, Arnold professor of botany at Harvard, said today that the seeds, resembling

called, dried corn kernels, may not germinate in this climate. To find the last growing conditions for the aged tree, he is sending seeds to the following gardens and institutions:

University of California, Berkeley, Calif.; Seattle, Wash., Arboretum; University of North Carolina, Chapel Hill, N.C.; Duke University, Durham, N.C.; Park Department, Los Angeles, Calif.; Huntington Arboretum, Pasadena, Calif.; Morton Arboretum, Chicago, Ill.; Fairchild Tropical Gardens, California

Pay \$10,000,000

During the last twelve years, the men who sponsored the Continental Oil Company of Canada Limited were responsible for oil discoveries which resulted in more than \$10,000,000 being paid out in royalties and dividends. They are all men with a stake in this country and homes in Alberta.

Grove, Fla.; Golden Gate Park, San Francisco; The Royal Horticultural Society, London; and Royal Botanical Gardens, Kew, England

City's Chief Magistrate



Chief Magistrate of Edmonton, Mayor Harry Ainlay is a strong booster of the Leduc oilfield which have gained national prominence in the last year. Mayor Ainlay gives much of the credit for Edmonton's rapid growth to the discovery of the Leduc field, and sees continued development as a boon to Edmonton.

Discovery of Oil Brought Many New Firms to Edmonton

Discovery of oil in the Leduc field one year ago opened a new industrial era in the history of Edmonton, with many new firms and plants being established in the city.

THE EXISTENCE of this new business in Edmonton was detailed today in a report to the city commissioners by Graham W. Curtis, industrial commissioner for the City of Edmonton.

"I am pleased to list here," said Mr. Curtis, "the concerns who have purchased various government warehouses at the railroad at 142 street and at Calder and others who erected their buildings in other parts of the city."

Mr. Curtis' report follows:

Woodland Dairy Company, bought Cold Storage plant at 142nd street, Imperial Oil Company, bought 2 Warehouses and 4 acres of land at 142 street.

Alberta Oxygen and Acetylene Company, bought warehouse and land at 142 street.

Id. Stein Company, Wooden Truss Manufacturer and Contractor, bought Warehouse and land at 142 street.

Army and Navy Department Stores, bought Warehouse for Mail Orders at 142nd street.

Luna Gas Company, bought land and erected buildings, tanks, etc. for distributing Propane gas at 142 street.

Oil Well Supply Company, erected Warehouse at University avenue.

National Supply Company, erected Warehouse at 25 avenue.

Harber Machinery Company, erected building for manufacture Oil and Gas tanks, etc. at 50 1/2 avenue.

Turner Valley Supply Company, bought land from city and erected warehouse on 104 street.

Canadian Liquid Air Company, erecting Manufacturing Plant on Penn side.

O.K. Construction Company, erecting buildings on Penn-side.

Donland Sales and Rental Company, erecting building on Penn side.

Patric Cereal Company, erecting building on Penn side.

Cosutt Machinery Company, erecting buildings on Penn side.

Shell Oil Company, erecting buildings and tanks at Airport.

Taylor and Pearson built warehouse on 104 avenue at 115 street.

CAMPBELL FURNITURE Ltd., built warehouse at 104 avenue, 41 1/2 street.

Imperial Oil Company, building Oil Refinery just outside city limits.

Canadian Oil Companies, erecting Tanks and other Oil buildings on 10 lots bought from city between 111 and 112 streets at 405 avenue.

Canadian Co-operative Implement Company, Winnipeg, bought two large Calder warehouses on 127 avenue between 120 and 124 streets.

Alberta Government bought warehouse building at 103 avenue and 107 street.

Maesey Harris Company, built warehouse at 103 avenue and 106 street.

Fairbanks Morse Company, built warehouse at 103 avenue and 104 street.

Scott and National Fruit Companies built warehouse at 103 avenue and 104 street.

Hovner Company, leased No. 2 Hovner from Northwest Industries at Airport.

Co-operative Honey Producers, built factory at 1009 106 avenue.

Amongst the many buildings permits which were issued during 1947 I might mention the names of some of the Edmonton firms who erected new buildings during the year:

Canadian General Electric Company.

CITY SALES Arena and Stock Pavilion.

Magid Upholstery Company.

Neon Products.

Hanson and Van Kieck (Cleaning Plant).

British American Oil.

Ogilvie Feed Mill and Warehouse.

Miller Motors.

North Edmonton Brewery.

Canadian National Railway.

Chas. Wilson, new warehouse.

T. Talon Company Limited, new stores and garage.

Bank of Toronto, new branch.

Standard Iron Works.

Greyhound Lines, garage and bus depot.

Hurrows Motors, service station.

COMMERCIAL FEEDERS Co., new grain elevator.

Edmonton Journal, storage building.

Edmonton Hog Ranch.

INSTITUTIONAL, INK BUILDING.

Mitroslavski Hospital (Nurses' Home).

North American Baptist.

Christian Reform Church.

Alberta University (new library).

Canadian Legion (new hall).

This list does not include the names of many firms who had alterations and additions made to their present buildings, which accounted for a lot of construction work at a considerable cost during the year.

I also give below a list of firms and individuals not located on this list who were operating in 1947 for opening of business.

Gully, A. and Otto, G. T., 16129 106 st., manufacturers' agents.

Rattray, Alex J., 11031 97 st., veterinarian.

Beland, Isaac, 10812 95 st., floor laying and finishing.

Edmonton, 10347 101 ave., photography.

Edmonton, 10347 101 ave., photography.

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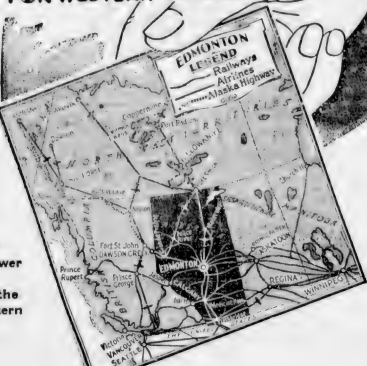
Edmonton, 10347 101 ave., photography.

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The Edmonton Oilfield which is now just one year old, has phenomenal record in development with forty wells now producing in excess of 650,000 barrels of high quality crude oil in this period. Twenty wells are in drilling stages. Significant industrial development has accompanied the expansion of the Edmonton Oil Field. A ten million dollar oil refinery is being erected—a lubricating plant costing approximately three million dollars is contemplated to serve the west with high quality lubricating oil. Edmonton is in a most fortunate geographic position being centrally located—in the centre of rich agricultural lands—and adjacent to vast stores of valuable natural resources essential to industry. Edmonton has everything for industry. Canada's busiest air centre—focal point of railroads in all directions—the ideal location in the West for industrial expansion.



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World's Proven Oil Resources Show Great Pools Yet Untapped

(This article, originally an address by Eugene Heimen, president, Standard Oil Co. (New Jersey), was presented before the Leduc oil field was proven.)

The well which is credited with having launched the oil business on its adventurous career was drilled in 1859, and it had hardly ceased to be a mine days' wonder before some person was foretelling an imminent shortage of petroleum.

Since that day 50 billion barrels of oil have been recovered from the world's oil-fields for man's comfort and convenience.

PERIODICALLY the voice of the pessimist has been heard in the past, warning the petroleum industry that its days were numbered. In 1914 the United States was said to have only 4 billion barrels of oil left; in 1921 the figure was placed at 2 billion; in 1925 it had dwindled to 5 million; and in 1934 the estimate was 132 million. These figures were the mere guesses of crack-pot economists but the considered opinion of certain recognized authorities.

Yet, in the years between 1915 and 1935, these same 27 billion barrels had established a reserve of 20 billion more. This is not as much a reflection on the crystal-gazing ability of the seers as it is a tribute to the unceasing and herculean efforts of the oil industry in its search for new fields and more efficient operating methods.

What is true of the United States is applicable to the world at large. Any hint of impending shortage has immediately been met by increased activity in the exploration and production of oil. In the United States alone, more than sufficient to meet the need, in that, the oil reserves of the world were placed at 20 billion barrels.

BEFORE GOING further it would be well to come to an understanding as to what the world "reserves" actually implies. It simply this—wells already drilled in the world's production of oil fields have demonstrated that a definite amount of oil is still there, waiting. These are "proven reserves," which in the case of the United States are placed at upwards of 20 billion barrels and, for the world as a whole, 35 billion barrels. This is equal to about 30 years' world production at the present rate.

To this we can add an unestimated amount of semi-proven and probable reserves. "Semi-proven" would include areas as yet undeveloped, within or adjacent to producing fields, where every indication pointed to the existence of oil. "Probable" reserves would comprise areas where, by one method or another, such as drilling, the presence of oil could be confidently expected.

WITH SUCH a tremendous volume of oil in sight there must be a tendency to let the narrow take eye of the present, with the knowledge that oil is a wasting commodity which, once taken, can never be replaced, the oil industry is justified in taking a long view and the world-wide search for new fields is increasing instead of falling off.

Some people express the opinion that this is wasted effort, that they suggest that atomic energy has already handed petroleum its coat and hat and pointed to the way out.

Admittedly nothing can stop the march of progress. Petroleum itself ousted the tallow dip and the coal-oil lamp; it drove Dobbins from the highways and chased him from the plow; it accelerated the wheels of industry and allowed men to fly. If atomic energy can increase the sphere of man's accomplishment or lighten his labour, nothing can hold it back.

But before we plug our oil-wells and dismantle our refineries let us bear this in mind. Scientific belief is that it will be a decade, at least, before the controlled chain reaction used in the atomic bomb can be made available for industrial purposes as a source of energy. Installations for this purpose would be far too bulky and heavy to be used as units for the mobile power of trains, autos or planes because of the necessity for adequate shielding from the penetrating rays. Furthermore there is, as yet, no yardstick to measure production costs of atomic energy and its ability to compete with petroleum, coal or water-power on an economic basis has still to be demonstrated.

IF THAT DESTROYS the hope of too much oil, we must still as-

tion, the opportunities for successful development are widespread. Brazil has a large expanse of sedimentary rocks. Ecuador has its Oriente and the republics of Chile, Uruguay, Paraguay and Bolivia are almost virgin territory as far as the oil search is concerned; Mexico, Central America and the West Indies have latent possibilities which will repay exploitation.

The very extent of Canada's prospective territory has been a handicap in its development. When Imperial Oil embarked on the first organized exploration of the western prairies, the late A. M. McQueen, who was in charge of these operations, expressed the opinion that the oil possibilities of that vast area could not be discounted until a number of wells, appropriate to the great expanse, had been drilled. This implied literally thousands of wells and, despite the intensive efforts of both Canadian and U.S. companies, particularly in the past ten years, that quota is very far from being reached.

These efforts, however, have not been entirely abortive. They have given us Turner Valley, which since Duguid drilled his well in 1914, has produced over 81 million barrels and provided over 90% of Canada's output. At places such as Frerces, Conrad, Vermilion and Lloydminster, those who have pitted their faith on the productivity of the plains have been rewarded, and with a potential value that is difficult to estimate.

For the north, Norman Wells, on the Mackenzie river, holds the bulk of Canada's proven oil reserves with around 30 million barrels available for future use. As a contribution to the war effort this field shipped over a million barrels during the Canal pipe line in the 1940's.

Exploratory drilling is still being continued and the opening up of this vast hinterland will be greatly aided by the contribution of petroleum.

(Continued on Page 20)



A royalty of one barrel in eight, or 12 1/2 per cent, is paid to owners of the mineral rights. In many cases in Alberta, farmers do not own the mineral rights underneath their land, because the Alberta government, the Hudson's Bay Company, the C.P.R. and other owners normally sell surface rights only.

A few farmers, where the land was homesteaded during the early years of the west's development, own both mineral and surface rights. The Leduc field is in a rich farming area. The modern windmill and the drill derrick now share the country's skyline.

PROGRAM CHANGED
LONDON—(CP)—The Robinson Family, NBC radio serial heard in Canada during the war, has gone off the air after six years and is being succeeded by Mrs. Dale's Diary, another radio serial.

TO STUDY TRANSPORT
NEW DELHI, India—(CP)—As part of a program to improve service and facilities, the Indian Railways will send a senior officer to the United States to study the latest techniques of railway transport.

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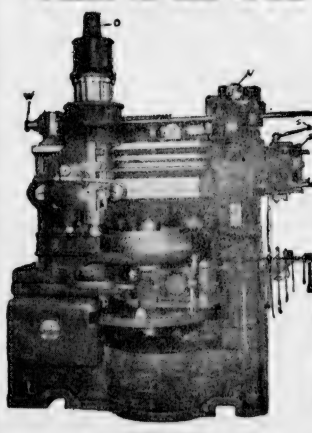
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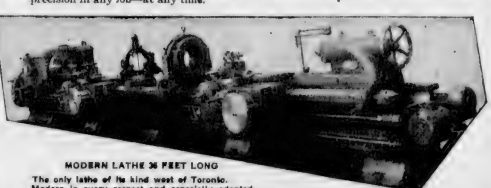
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Report on Leduc-Woodbend Oil Fields

An up-to-date report on the important and encouraging development results obtained during the past twelve months by Imperial Oil Limited and other Companies in the Leduc-Woodbend and adjacent areas is given in the February issue of our "Investment Securities Review".

Traders and others who are interested in Western Oil Stocks should write for a copy now. Free on request.



Send for this
Investment
Securities
Review

The February number is now available. It contains a comprehensive list of quotations and interest or dividend yields on Government, Municipal and Corporation Bonds, Preferred Stocks and Bonds, Industrial, Mining and Oil Stocks. Bonds called for redemption in the near future are also listed, together with the call prices. You will find it useful as a ready reference. Write for a copy. We shall be pleased to send it to you.

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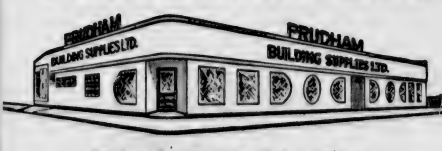
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—Photo by Blind.—
With knowledge that their town is near the centre of the Leduc-Calmar oil producing area, members of the Calmar Board of Trade face the future optimistically. Seated (left to right) are: M. W. Hirsch, president; E. A. Westlund, A. Olson, and Alex Riddick. Standing (left to right) are: M. A. Sank, E. C. Walton, V. R. Nyberg, W. B. Brown, M. J. Thomas and A. Weidman.

Great Growth in Year Calmar Expands Under Impact Oil Discovery

Parched on the rim of the ever-expanding Leduc oil field, Calmar businessmen look to the future with optimism and wonder how they can keep their full park from being absorbed in the drive for oil to keep Canada's wheels turning.

ONLY ONE YEAR AGO Calmar was a hamlet of 260 persons serving a rich agricultural community. Then oil was struck at Imperial number one.

Today the influx of oilfield workers has more than tripled the population and the residents, in their desire to accommodate have extended the town's facilities and services until they are "burning at the seams."

During the past year, the residents of Calmar, about 30 miles southwest of Edmonton have watched new wells brought into production ever closer to their town's limits. They now have a population well within three miles, and work has started on another only one and one-half miles away. In fact, offers have been received for rights to drill a well on the committee baseball park.

Perhaps the greatest impact resulting from the influx of the oil workers has been the strain put on housing. Nearly every available culvert within the town's limits is providing a home for someone. Twenty-five new homes were built during the past year and according to Board of Trade officials, in other instances are needed immediately to ease the pressure of the future prospects. To help relieve the situation numerous abandoned houses from the surrounding farms have been moved onto town lots and made habitable as emergency accommodation.

IN ANTICIPATION of a rush of oilfield workers in the spring, plans are being considered for laying out of a trailer camp, and with a view toward more permanent construction, negotiations are underway with building contractors for a housing project.

Vitality centered in all plans for the development of the town by the Calmar Board of Trade headed by its president, M. W. Hirsch. Mr. Hirsch says the discovery of oil in the Calmar area was the cause for a sudden and extensive boom in business, and with the expanding field moving closer to the town it should lag slower to a further increase and permanent population.

Mr. Hirsch's faith in the development of Calmar is such that he expects action for the installation of natural gas and waterworks will not be long delayed.

Typical of the efforts of the Calmar Board of Trade over and above the normal call of duty was the treatment given a telephoned request on evening last week. The request was for accommodation for fifteen men. Not many hours later a new drilling crew moving into the area was housed within the town's limits.

FOR THE BENEFIT of the new residents Calmar has extended the size of the park from a modest two and one-half to ten acres. It is planned to develop the park into a well-rounded sports centre and beauty spot.

In addition new housing equip-

ment has recently been purchased and more frequent performances of the latest high-class motion pictures released are planned.

With the unprecedented growth in population, Calmar's business facilities have expanded to meet the new demands for commodities and services. Typical of the expansion that has marked the town's growth is the increase in the number of garages. Where two served the community needs before, five are kept busy now. A similar increase is reported in the number of eating establishments which are now providing 24-hour service.

Another mark of Calmar's growth is the taxi service which operates from the town's hotel.

TWO INDUSTRIAL concerns supported by the district are the upstate creamery, equipped with facilities for poultry and egg service, and the plant of the Alberta Poultry Producers where there are complete facilities for hatching eggs, and the processing of the poultry.

These firms in recent years, which

With its agricultural background and the promise that the oil industry holds for the future, Calmar appears to be on the road to bigger things ahead.

More than 10,000,000 acres of United States Forest land are burned annually through lightning and are under way to have the services of a

full-time agent installed at Calmar.

With its agricultural background and the promise that the oil industry holds for the future, Calmar appears to be on the road to bigger things ahead.

More than 10,000,000 acres of United States Forest land are burned annually through lightning and are under way to have the services of a

Winter Conditions Curtail Activity

LEEDS, ALTA.—Winter conditions have curtailed to a certain extent the widespread development noted in the Leducminster area during the past several months and much of the activity recorded during the past two months has been the drilling out and placing on production of previously completed wells.

This new production will be reflected in increased output returning during the coming months. Both of the Imperial oil wells on the Alberta side of the Leducminster field were successful in obtaining saturated oil sands and each is now operating for test with commercial production expected. Imperial also drilled a well near Pulp near in the southern portion of the Leducminster field which was a failure, and is presently preparing to drill on Section 26-4-27 W3 in the Lone Rock area. All well locations are on Hudson's Bay Company land.

An eight foot oil sand was cored in the Imperial No. 1 well, 30 miles south of Leducminster and on the Alberta side, and a commercial oil discovery has been indicated. This well was drilled to a total depth of 1825 feet and casing was run through the Lower Cretaceous sand which was gun-perforated approximately the oil zone. On balling rods the fluid column has remained fairly constant at around the 1,000 foot level.

Imperial Oil Company has stated its intention to drill 20 wells in this field this summer, and Continental Oil Company of Canada has reported contracting with Northern Development Company for drilling 25 wells.

Dependent on supplies of steel equipment, drilling rigs, suitable numbers of tank cars and sufficient refining facilities, the Leducminster area should greatly increase output during the coming year, and supply much of the fuel oil and asphalt requirements of western Canada.

SWEDEN EXPORTS FISH
GOTHENBURG, Sweden.—(CP)—Sweden is exporting fresh fish in Czechoslovakia in ultra-modern refrigerator cars, each loading 30 tons. In the next two years some 30 such cars will be used to transport about 1,000 tons of fish a month from this west-coast port to Prague.

Edmonton Favored As Key to West

Edmonton is a most favored city. A brief review shows that in the district it serves it has more concrete possibilities for business growth and added population than any other city on the American Continent. Hudson's Bay Company's bid of today—gold in the Yellowknife—timber and pulp in the foothills, huge farming areas surround it. The Alaska Highway.

Huge oil deposits. Natural gas and oil. A railway centre. Key air port on the world routes. Superior location. Growing population. Government headquarters. University—and more. Has everything, in fact, that most justify its bid of the future, if not the present, as the key centre of the west.

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Taylor Is Engineer

Barney Taylor, of Taylor Peterson Contractors, is the engineer in charge of the Leduc well for the Imperial Oil Co. Ltd.



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Under New Management

Imperial No. 1 Produced One Year Ago

Lone "Wildcat" Rig Brought in Producer To Open Major Field

A year ago a lone "wildcat" drilling rig probed into the rock underlying the Alberta plains south of Edmonton. Now, Canada has a new major oil field, a new refinery, a new pipeline and even a new town, for the wildcat produced oil on February 13, 1963.

The wildcat was Imperial Leduc No. 1. Now another wildcat gives promise of either extending the Leduc field, or being the discovery of another oil-bearing area. This well, Imperial Woodbush No. 1, is located some three miles north of Leduc's nearest proven area.

THIS YEAR will see even further expansion for the future policy of Imperial Oil Ltd. It is to continue the orderly development of the field as rapidly as drilling facilities and supplies allow.

The company at present has 14 drilling rigs working in the area—12 in the Leduc field, and one company rig at Woodbush. Leduc's present estimated reserve is 100,000,000 barrels. Production has been found at two levels—the D2 zone at about 3,100 feet, and the D3, at about 5,300 feet. Imperial Leduc No. 1 got production from the D2 and Imperial Leduc No. 2 was brought in from the D3. The D3 zone, as yet, has not given commercial production.

The discovery well was the lone producer for three months, before No. 2 and 3 kicked in on the same day. From the discovery until the end of January this year 40 producer wells have been drilled, 28 by Imperial and 12 by other companies.

IN ADDITION to its 28 producers, Imperial had another 14 wells either drilling or tested for future drilling at the time of Leduc's first birthday. Since the discovery well kicked in, drilling rigs have not been idle a minute. Most of them operated 24 hours a day, and in 12 months the drill crews have pushed their bits a total of more than 260,000 feet (more than 51 miles) into the rock beneath the plains.

One of the first major developments which the field brought was a pipeline. This was needed to handle the oil which was flowing from the field in ever-increasing quantities as well after well came into production. Started last summer, the line was in operation within a few months. It now carries the oil to Niakwa, eight miles east of the field.

THE SYSTEM includes 48,000 feet of main eight-inch line to which is linked more than 45,000 feet of gathering lines ranging in size from three to six-inch pipe. Ten batteries of storage tanks, separators and pumping equipment are all included in the system.

At Niakwa two 5,000-barrel and one 10,000-barrel storage tanks hold the oil for loading into railway tank cars. The loading racks can handle 16 cars at a time, and full trainloads of these cars are a familiar sight to roadside residents. An office building, bunk house, garage, boiler house and pump house complete the setup.

Before the pipe line went into operation, Leduc's oil was hauled by tank truck by road. The roads took terrific punishment, and the provincial government, municipal district and Imperial continued to improve them.

MORE THAN four miles of new road was built by the company, the government completed rebuilding and graveling more than seven miles and on a three-share basis—government, municipality and Imperial—about 25 miles were made serviceable for year-round operation.

Meanwhile, the new town of Devcon is rising near the oil field. It takes its name from the Devonian strata, which holds the oil that Leduc wells are producing. The first group of 25 houses will soon be ready for occupancy by workers in the field, and more houses, a school, church, theatre shops and all the various buildings which a town needs will be going up on what was farm land a year ago.

Leduc needed first a pipeline to handle its oil, then a town in house its field workers. Its production became so good that it also needed a refinery.

IMPERIAL OIL found the refinery at Whitehouse, 130 miles from Leduc. A new refinery could be built, but that, while the world would be about the same, would take 18 months longer to put into operation. Hence, the company bought the Whitehouse plant for \$100,000 and is dismantling it and carrying its parts over the Alaska Highway in huge trucks.

One shipment will come via Skagway and Vancouver.

At Dawson Creek the parts are being transhipped by rail to the

Share in Benefits of Big Oil Land Sale



An Edmonton family whose "ship came in" carrying a sizeable cargo of "black gold" is shown above last September 3 happily gazing at the \$200,000 cheque paid by Atlantic Oil Limited, for 160 acres of land in the Leduc oilfield. The farm land was part of an estate bequeathed to them by the late Bronislav Heber, who came to Canada from Poland in 1907, and homesteaded in the Leduc district. Seven happy members of the Heber family shown above left to right are Mike, of

Calmar, co-administrator of the estate; Andrew, Peter, Mrs. Mary Melnyk, Joseph, sharing-administrator of the estate; Mrs. Rose Rebus, mother of the group; and Alfred. Four other beneficiaries were absent when the "ship" was taken. The high price paid for the land is considered in oil circles to be the greatest price ever paid for acreage in the history of western Canada.

temporarily as a limit per well of 100 barrels daily from the D2 zone, and 150 barrels daily from the D3. To date Imperial has 14 producers in each zone, while other oil companies have one producing from D2 and 11 from D3.

Figures for producing wells in this new field are soon outlined, however, for at present 20 rigs are drilling in the area and they are constantly adding new survivors.

The physical development of the Leduc field in one year has been both spectacular and impressive, but the discovery has also changed oil exploration thinking in the west, where Imperial spent many millions before the Leduc discovery. This one big success has

touched off the largest exploration program in the history of the Canadian west.

THIS PROGRAM comes at a time when Canada needs every barrel of oil which can be produced, for Canadians are using more and more products which can be made from the crude oil which is gushing from Leduc's wells.

INFORMATION ON CLAIM MONTHLY.—CPI—The Canadian government information office has opened a branch here "to familiarize the Chinese people with the Canadian way of life as well as to distribute information about oil." China's director G. H. Low announced.

Wounded Gull Bathes, Flies

VICTORIA, Feb. 18.—(CPI)—Niwaxia, the sea gull transfused by an arrow which flew or walked about the waterfront here for several days before kind-hearted people captured the bird and removed the missile, has been released as "completely cured."

He spent his first 30 minutes of freedom taking a bath from head to foot, apparently to show his gratitude for things human. In his haste to take to the water, Niwaxia swam up and seized the nose of one of the two men carrying him to freedom.

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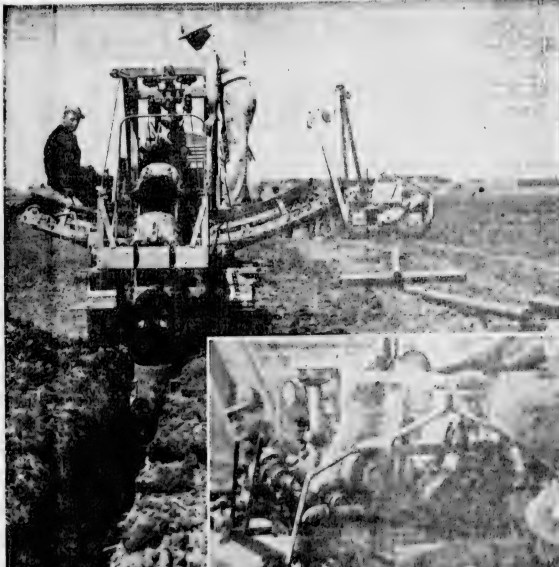
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● Few Dreamed That Oil Would Be Discovered

TYPE LOG, LEDUC AREA, AL



in thickness from nothing to 360 feet. At the present writing appears that this is a typical reef bioherm which grew during one of the advances of the Upper Devonian sea, thus causing it to be completely covered by shale as well as surrounded by it. The 10-3 zone consists of dense and very porous

[illegible][illegible]

In personnel, in capital investment, in current operations, and in plans for the future, The British American Oil Company Limited has become an indigenous part of a Province that looks ahead with sure optimism.

1934	B-A first refining operations in Alberta undertaken at Coultis.
1936	Crude oil first discovered in Turner Valley as a result of B-A furnishing bottom hole money to complete Turner Valley Royalties well, previously standing idle. Turner Valley Absorption Plant put in operation.
1939	Calgary Refinery opened and marketing operations extended.
1943	On-the-spot facilities installed to serve U.S. Army Corps of Engineers in construction of Alaska Highway.
1944	Recycling and repressuring system—first in Canada—installed to conserve Turner Valley field.
1945	Marketing operations again expanded by purchase of Union Oil Company holdings.
1947	Quarter million dollar addition to Calgary Refinery opened for production of asphaltic materials for paving and industrial uses. Edmonton Branch enlarged and modern loading and unloading facilities installed.
1948	Reservation or lease approximately 1,000,000 acres. Large participation in wells now drilling in Leduc area.

The great majority of these distributors are in business for themselves. They are independent associates of B-A in serving their communities.



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Oil Reserves

(Continued from Page 15)

THE OLD FIELDS of western Ontario, which saw the birth of the petroleum industry, are being given a chance to stage a comeback. Dismantling study has indicated a possibility that, within the developed areas, there may be untested spots where drilling may be productive and some promising results have already been obtained. The St. Lawrence valley and the Maritime provinces are also being extensively explored and deep drilling resorted to, although success has, as far, been elusive.

Beyond the confines of Canada lies Alaska where the oil possibilities are considered as promising as the U.S. government has established a naval reserve covering 35,000 square miles of prospective oil lands.

Complete authority has been stated that from the Western Hemisphere, outside of the U.S., an amount of oil will be secured equal to what the States, themselves will produce; a further 50 billion barrels to add to Uncle Sam's 30 billion. Petroleum for posterity!

This, however, by no means exhausts the resources of Mother Earth. The area covered by sedi-

mentary rocks in the Eastern Hemisphere is more than double that of our own side of the globe.

OVER ONE-THIRD of this prospective producing area lies within the vast stretch of the Soviet Union, which makes us scratch our heads over Russia's frantic designs on the reserves of adjoining nations. Perhaps it is due to the fact that, unlike the Soviet's, the oil must still be sought for, the reserves of the near East are, at least, comparatively for, comparatively little drilling has demonstrated the productivity of Iran and Iraq which, in 1945, amounted to 100 million barrels.

Counting in the territory of Haiti, Saudi Arabia, Kuwait and Egypt, the basin areas of the near East exceed those of the U.S. and Alaska and provide a fertile field for exploration.

In the far East the fields of the Netherlands East Indies and Burma have suffered by the Japanese occupation and are not yet back on full production. Extension of these fields and exploration in British India, China, Australia and Japan will undoubtedly add to the ultimate yield. Even applying the minimum expectancy of production the Eastern Hemisphere should ultimately produce in excess of its Western counterpart—another 100 billion barrels of oil, at least, for the future.

As if that were not enough the oil industry has prepared for the day when even such a fabulous stockpile may become depleted.

FROM OILSHALE, from coal, natural gas the recovery of gasoline and other oil products is a demonstrated possibility. Twenty years ago gasoline was extracted from coal for the first time on the American continent. Germany kept her planes in the air with synthetic fuels. A plant is now under construction in Texas to produce gasoline from natural gas. The resources of such material, of gas, of oil, of oil shale, must be computed in fantastic figures; in coal alone the United States has the equivalent of more than a thousand years' supply of liquid fuel.

Only the economic factor means while keeps those synthetics from competition with petroleum recovered by drilling, but any appreciable increase in the cost of crude oil, such as would accompany a

definite trend towards ultimate exhaustion, would bring those synthetic fuels into the picture, at first in augment and eventually to supplant the present sources of supply.

Canada would fare not too badly should that day come. Her resources of coal are exceeded only by those of the U.S. and Russia; she has tremendous reserves of natural gas and she has the Athabasca tar sands. The latter comprise the world's greatest surface manifestation of petroleum, but the mode of their occurrence presents certain difficulties in recovery of the oil which must be treated before the tar sands can compete with crude at its present price level.

FROM THIS RAPID review we can appreciate that there are few land areas on the earth wide expanse which have not the certainty, the probability or the possibility of producing oil. It would seem to be everywhere, providing we have the energy and the skill to search for and find it.

There is a third necessity, however, and that is, the incentive. Industry in the States, and in Canada in a relative sense, did not expand automatically. It grew and flourished because men of skill and energy were assured of an adequate reward for the application of those virtues. Oil has not only brought freedom from toil and drudgery, it is a product of freedom. Freedom to search, freedom to develop, freedom to produce and market. These opportunities prevail on this continent and industry has benefited accordingly.

THE COUNTRIES where oil exploration lags are those which, by restrictive legislation or excessive regulation, have placed barriers in the path of free enterprise, a short-sighted policy which is stultifying their own progress and shortchanging opportunity from their hands.

It is no mere coincidence that Uncle Sam and Jack Chusick are the most lavish users of petroleum products on the fact of the globe; it doesn't hurt because petroleum products brought from miles down in the earth, refined by complicated processes and transported for hundreds, even thousands of miles, are refined at a lower cost than raw milk or molasses, although their actual selling price

Leduc Becomes Thriving Oil Centre



The town of Leduc is situated on the Edmonton Highway about 18 miles south of Edmonton. Its mayor is L. St. C. Giesse who is now in his sixth year of office. The first mayor of Leduc was C. W. Giesse, father of the present mayor, who took office in 1904. Leduc is undergoing a small business boom, taking the form of building and increased transient trade. The population in 1946 was approximately 982 but has grown substantially. Leduc is

the centre of one of the best farming areas in the western provinces. There have been no crop failures and at the present time, no farms are available for sale, a point which indicates the possibilities of the land. This section has a mixed population of French, English, German, Ukrainian and Scandinavian. Most farming is mixed. This picture shows the activity on the main street.

Huge Natural Gas Deposits in Alta.

In addition to the vast deposits of oil in Alberta, this province can boast of millions of cubic feet of natural gas. The gas is expected where all is provided, and it also found in numerous districts where oil has not been located. The richness of natural gas deposits in Alberta is a constant source of amazement in the province.

There are few places in the province where drilling may be done without running into gas. The gas is of varying pressure. The major cities, and many of the smaller communities, are serviced by these gas deposits—as are many of the industries.

Oilmen, in their drillings, invariably find enormous gas pressures and production in most cases the wells are abandoned unless oil is found, or capped and left idle.

Alberta's commercial gas output from more than 400 wells, is 70 percent of the entire Canadian production. Over 20,000,000,000 cubic feet of gas is burned commercially each year.

Turner Valley supplies Calgary and surrounding district, the Vis-

Infant Mortality Down in Britain

LONDON, Feb. 18.—(UPI)—Official figures issued by the Registrar-General reveal that Britain has set up two records in vital statistics during the third quarter of 1947. Both infant mortality and stillbirth rates are the lowest ever known.

There were only 8,000 stillbirths, which represents 221 in every 1,000 babies born. Deaths of children under one year were just over 7,000, giving a rate of 32 per 1,000 births.

Health authorities say that reasons for both children and teacher are necessary in school. It gives the room a change in air and every body benefits from a spell of "freedom."

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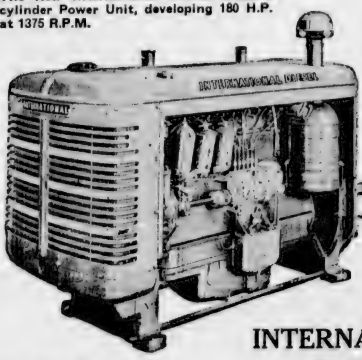
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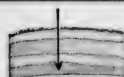
Out of 40

Of the 40 wells brought into production during the first year of the Leduc field, 14 were brought in by equipment and crews of this Company.

Since commencing operation, Drilling Contractors Ltd. has successfully completed 100 wells totaling approximately 925,000 feet of hole, all of which have been under the personal supervision of Ralph Will, vice-president and general manager of the Company.

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President.
T. H. McIVOR
Vice-President.
J. G. Gannon,
Secretary.

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One Man May Get Fortune, Neighbor Benefit More Slowly

Everyone is interested when someone suddenly comes into a fortune. For this reason Canadian newspapers in recent months have directed attention to a few extra-lucky landowners who received big sums for their oil rights after the discovery of oil in the Leduc area.

New homes and automobiles, trips to Florida or California, become possible literally overnight for a few farmers when they obtained large amounts in cash for the mineral rights on properties where no oil had been produced.

This spectacular luck for the province of Alberta with the few raises the question: "Why do some men suddenly receive a fortune, while his neighbor on the next-door farm, where there may be just as much oil (or more), benefits more slowly and perhaps only indirectly?"

The answer rests in the law that governs mineral rights and in the situations that develop before and after an oil discovery.

The truth is that in addition to the fortunate many who will benefit at Leduc, other farmers who own their mineral rights will receive substantial royalties and profits as the oil is produced, the community as a whole is profiting through the new industry; Edmonton has suddenly become an oil

land and of everything on or under it. This is the settled part of the Maritime, Quebec and Ontario property owners often own the land and the "mineral rights"—the right to the materials that lie beneath the surface.

As time passed, however, governments began to reserve mineral rights when making land grants to individuals and subsequently mineral rights passed from the federal to the provincial governments. Much of the widespread settlement which led to the development of western Canada came after the Dominion had established its reservation of mineral rights. As a result, individual owners of mineral rights are comparatively few in the west and their lands are usually parts of large tracts originally granted by the Crown in very early days to the Hudson's Bay Co., the railway companies, and others.

Many things can happen to privately owned mineral rights when, over the years, parcels of land pass through the hands of a succession of purchasers. When a man wants to buy a farm he is chiefly interested in the land itself and the crops it will produce, not in who owns what lies beneath. In some cases, the owner who possesses both surface and mineral rights may sell the surface but reserve for himself the mineral rights, a fact not always drawn to the attention of the purchaser nor considered important by him at the time. Thus the surface may belong to one man and the mineral rights to another.

Private ownership of mineral rights has been reduced in some areas when rights which once were included in land titles have reverted to the Crown because owners

Calmar's Main Street Is Focal Point of Activity in Alberta's Oil Boom



The main street of Calmar, on the edge of the Leduc oilfield, on a quiet Sunday afternoon, gives only a hint of the bustle and activity there throughout the week. Building in the foreground is the Calmar Hotel operated by Alex Riddick. Adjacent to the left is the busiest spot in town on main street, the Calmar post office. Further to the west are seen a number of the local business houses.

are have failed to pay the comparatively recent mineral taxes imposed by the province.

An oil company that decides to explore for oil in an untested area must expect to find situations like these and many more when it seeks to begin operations. In western Canada it must negotiate with any private owners of mineral rights concerned and more often with the

province which holds the bulk of the rights.

The first step would probably be to secure a "reservation" under the act governing mineral resources. Under Alberta legislation this would cover all rights at the disposal of the Crown within a designated area.

The company undertakes to carry out geological or geophysical surveys, core drilling or other investigations necessary to determine the possibilities of the area, and all reports and data obtained are to be available to the province. Many operations halt at the exploratory stage because the data obtained are not sufficiently encouraging to warrant the heavy

expenditure that would be required for drilling. If, after exploration, the company decides to drill, it naturally seeks to safeguard its operations by surrounding the location with a block of leases.

Where the mineral rights are held by the province the leases are drawn up according to general regulations defined by the government. The company agrees to pay rental for the surface areas and mineral rights involved in its operations; there is an obligation to begin drilling within a stipulated period; and the province reserves for itself a royalty of approximately one-eighth of any oil produced.

The area, of course, may include properties where the mineral rights are privately owned and at the stage where plans have been made to drill a "wildcat" (or exploratory) well the company usually offers the private owner the same leasing terms as are in effect for the Crown-owned rights; that is, an annual rental for the acres of land and mineral rights involved and a royalty of one-eighth of all oil produced.

The owner is inclined to congratulate himself that he is getting a little ready money as rental and there is the possibility, as the oil army goes in, of "pie in the sky and by." Without putting up any stake at all, if oil is found he stands to profit by his eighth

and the company will safeguard its interest because it has obligated itself to drill offset wells so that his oil will not be drained away by wells on adjacent properties.

If the oil company drills a dry hole its investment of time, money and labor is a total loss, but all the landowner loses is his tiny drop of comparative expense. The Canadian well is dotted with dry holes, Leduc is a happy exception.

When the well is a success the landowner's lease begins to pay off. If the well is producing approximately 100 barrels a day and the oil sells at \$2.00 a barrel he receives a return of between \$2000 or \$3000 a year. Provincial well-spacing regulations permit the drilling of four wells to a quarter section of land and thus the farmer's royalties could increase to \$4000 a year or more, depending on his holdings. These payments in amounts that vary according to the well's performance, continue for as many years as oil is produced from the property.

An oil strike brings a new situation with conditions that make the "one-time" fortunes possible for a few landowners. Pioneer drilling concentrates on a small area surrounded by "lease" by the usual protective leasing. But when a new well comes in, interest skyrocketed to include the land and breadth of entire districts. Operators who formerly stood aloof now clamor to get on board the band wagon. They are after acreage "close in" to the new well and, because the discovery well has greatly reduced the element of risk, they can afford to offer better prices.

This is where the luck reaches out to some property holders. The discoverer seldom can lease all the lands above newly proved structure and with the scramble for acreage, the farmer's mineral rights miles distant from the discovery well suddenly become very valuable. Thus fortunes are made by some land owners and also by operators who have bought leases and sold them again at a handsome profit.

The fortunes may go to some "hobnobbers"—men who refused to permit their well being started. He may be thought that the holdout is "sassy" or "stupid," but actually the man who refuses to lease his land for a shorter oil test not only stands in the way of progress but often in his own way too. Oil companies do not conduct play-off drilling unless leases can be obtained on equitable terms. If the demands of a holdout prevent drilling—the only sure test to determine if oil lies beneath the surface—no one benefits, least of all the landowner.

The holdout who makes a sudden fortune does so because a producing well has "come in" on his neighbor's land. Someone now is willing to invest large amounts because of the oil being found nearby. The holdout will probably congratulate himself and say: "Look how smart I am! How much more money I have than the man who leased the first lease."

The holdout has forgotten what would have happened if the producer well had resulted in a dry hole. The driller would move away from the district because no oil had been found. But the holdout's land would remain untested because he had prevented drilling there. And under the surface the oil might be undiscovered, unproduced, and certainly not paying royalties to the landowner. Canada is oil-rich and able to supply only in part her own petroleum needs from Dominion territory. Thus, all oil exploration needs encouragement and the government, by making excellent financial demands, blocks a drilling operation may be interfering with the development of natural resources that are badly needed by the nation.

The large financial risk involved in exploring for an important factor affecting leases. A prospective company spends, possibly \$20,000 to survey and \$250,000 in drilling before a well is completed and most without results are dry. When Leduc No. 1 appeared there was nothing to make it any more attractive or promising than hundreds of other tests which were unsuccessful. A sum of \$200,000 which were extremely expensive. Leduc, as the pioneer at Leduc, hopes and expects to make money from the new field of course, but the Company and the province have spent more than \$25,000,000 in exploration in the west and a long time will elapse before the large investment can be recovered. Once the oil comes into action after a discovery well has been drilled, there is no exploratory expense. They are prepared to bid to high figures if they can obtain



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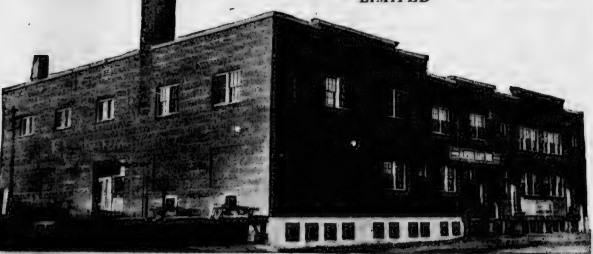
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That is why, today, all eyes in Canada are on the fast-developing oil resources of Alberta, where South Brazeau Petroleum is proud to be playing such an important part with key interests in wells and oil leases at Leduc, Turner Valley, Lloydminster and Wetaskiwin, including a 50 per cent interest in the two big Leduc producers, East Leduc-South Brazeau Nos. 1 and 2.

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as the Search for New Fields Intensifies

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—Photo by Hland—

87,000,000 Barrels
More than 87,000,000 barrels of oil have flowed out of the pool beneath the surface of Turner Valley since that field became Alberta's first oil field, according to conservative estimates. With the discovery of Leduc, Lloydminster, Taber and other fields, the limitless possibilities of this province have been indicated.

Proud of their achievements in their first year as an oil town, members of the Leduc Board of Trade make preparations to keep their town "out in front". Seated from left are: J. Taylor, F. John, L. Lindberg, and R. McLaren. Standing, left to right, are: V. I. McLaren, J. A. Workman, and E. Chisholm, president.

Additional Oil News in Section 4
Pages 40, 41, 42, 43

Oil Exploitation Work Is Costly

The cost of oil exploitation work is a costly undertaking and any one living with the idea of drilling for oil in hopes of discovering a producer would do well to do considerable investigation before starting such an undertaking.

In the first place, before a drilling rig can be built and assembled you will find yourself minus a sum of money in the neighborhood of \$150,000. You will then have only an expensive rig which is capable of drilling what oil men call "shallow" depth fields such as the one near Leduc.

Deeper rigs, such as that which penetrated 13,000 feet at Stnberg, cost around \$300,000.

If you still feel like drilling, you shouldn't forget that the rig is only the initial cost. Often the cost of actual drilling exceeds that of the rig itself. Drilling at the Stnberg well cost \$1,000,000. And then after all this is done, there is always the chance that the well will be dry—it was at Stnberg.

As an instance of just what it can cost to get into the oil business, for the first the Leduc No. 1 well came in, Imperial Oil had spent in the neighborhood of \$2,000,000 in exploration alone. So the business of looking for oil is a very expensive proposition.

F. M. McLaren is a secretary-treasurer.

A PROJECT ABOUT which the board is particularly concerned at the present time is a sewer and waterworks program that they expect to get into operation this coming summer. Construction of two wells to supply water necessary for the system is currently in progress. The for the system has been ordered and is expected to arrive next July.

Just what oil has done for Leduc is indicated by the number of outgoing telephone calls placed through the Alberta Government Telephones exchange there. During a recent month, board of trade officials said that more than 4,000 calls were placed. Just what a comparative figure prior to the discovery of oil would be, the officials were not able to say, but they agreed that it would be considerably less. Traffic through telephone exchange has increased to such an extent that it was found necessary to add a third switchboard to the two already in operation. The new switchboard went into operation Feb. 13.

IN ADDITION to the telephone connections with major centres Leduc is on the main line of the C.P.R. between Edmonton and Calgary and has service to Calgary and many other Alberta points also passing through the town.

Leduc is crowded, the discovery of oil has led many interested companies to open offices there. Among them are Imperial Oil Limited, General Petroleum, Canadian, British Construction Company, Spence and Vinge Truckers, James and Heimer, Canadian, Freightways, Trucking Motor Pool, Howell Incorporated, Halliburton, Conquest, Company, and the Home Oil Company.

Big Construction Program

Leduc Becomes Active Centre New Oil Field

Leduc, 20 miles south of Edmonton, and the main jumping-off place for the rapidly-expanding Leduc oil field, today is probably suffering more from "growing pains" than any other Alberta town.

IT ALL STARTED slightly more than a year ago when oilfield workers started arriving with their portable homes to take up work in the then newly-discovered oil producing area.

From all parts of Alberta, western Canada, and from the United States they came, to almost overnight, boost the population a considerable number to a crowded fifteen hundred.

The growth taxed just about every facility of the town. Even vacant lots for the location of the portable living quarters of the oilmen brought in on their trucks were so limited that they had to settle them on the Community baseball park.

Since then, however, steps have been taken to remedy the situation. At least 30 new houses have been built, and houses have been moved in from the surrounding farmside to provide additional accommodation. Negotiations are currently underway between the town and Central Mortgage and Housing Corporation for the construction of 50 new dwellings on a tract of land to the west of the present town which will eventually be brought within the boundaries. If undertaken, the Central Mortgage and Housing program will mean a 300-400-thousand dollar building program for the town.

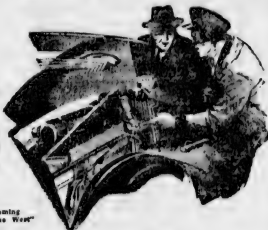
HOUSING IS ONLY one of the features of Leduc life to be affected by the discovery of oil. New garage facilities, new cafes and coffee houses have been built, banking and shopping facilities have been increased.

The sudden jump in Leduc's population caused the town's school officials considerable concern. Though a new four-room addition was made to the school system last year, bringing the total number of rooms to 13, certain classes are still overcrowded.

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When In Leduc

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FULLY INSURED HEATED CARS
SPECIAL RATES FOR WEDDING RECEPTIONS, ETC.
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LEDUC HOTEL COFFEE SHOP



The Food is GOOD!

The Place to Eat in LEDUC!

oil industry's indispensable!

In the wizardry of chemistry, oil is more than a lubricant. It is the basic raw material for countless industrial and consumer products. Here in Alberta we have the second largest oil-fields in the British Empire; an annual production of over 7 million barrels; and new oil potentials that may well be of world importance. Alberta offers on-the-spot oil-for-new industry, and the vital needs of existing industry.

So rapid is the growth of the Leduc field that figures are out of date as soon as they're printed. Currently there are over 40 wells in production. In December, 1947, approximately 30 wells produced 99,750 barrels of oil. In the semi-proven area of 30 sq. mi. it is likely that Alberta has its largest oil field of all time. With this oil, with coal, gas, timber, minerals, etc., agricultural production—Alberta is truly the industrial land of tomorrow.

ALBERTA has WHAT YOUR BUSINESS needs!

WRITE --- THE INDUSTRIAL DEVELOPMENT BOARD
Administration Building



GOVERNMENT OF THE PROVINCE OF ALBERTA
Edmonton, Alberta, Canada

AT LEDUC

SATURDAY NIGHT DANCING

AT THE

MEADOWBROOK

RAY DINON AND HIS 8-PIECE ORCHESTRA

The Smoothest Band you ever danced to

Leduc

DRY CLEANERS

WORK GUARANTEED

- Fast service on Ladies' and Gent's tailoring, cleaning, pressing, dyeing and repairing.



Try The

IMPERIAL COFFEE BAR

Opposite the Hotel

For a **Tasty Snack**

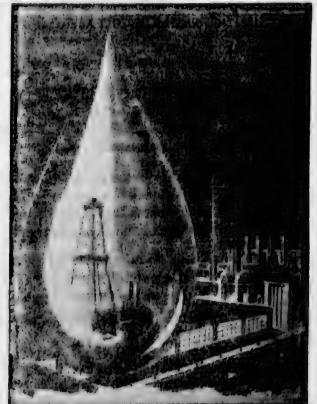


Pride of Leduc

LEDUC

BAKERY

TWO TOP SPOTS IN LEDUC



ONE YEAR AFTER..

The wintry sun etched on the snow-covered farm lands of Leduc, the silhouette of a lone derrick.

A towering pillar of fire and smoke belched heavenward proclaiming the birth of Imperial-Leduc No. 1.

That was on February 13, 1947!

The full import of that event, to Alberta's economy in particular and Canada's industrial life in general, cannot yet be fully estimated, but the time is opportune for stock-taking.

For Leduc is one year old!

It has been a year of effort; of progress and of success, despite the handicaps imposed by material shortages.

There are now 40 producing wells in the field, 28 of which have been completed by Imperial Oil Ltd., and 12 by other interests. At a modest estimate the field has a proven area of 8,100 acres with reserves of from 80,000,000 to 120,000,000 barrels.

To date 450,000 barrels of excellent crude oil have been recovered, staying the downward trend of domestic production.

Fifty-three miles of holes have been drilled. An eight-mile pipe line has been laid to railhead, linking up with 48,500 feet of gathering lines.

One 10,000 barrel storage tank and two of 5,000 barrel capacity are operating at Nisku, with facilities for loading 18 railway tank cars simultaneously.

About 25 miles of road have been built, rebuilt, or conditioned for year-round use by co-operation between Imperial Oil, the Government and municipality.

A new town is taking shape at Devon.

Edmonton sees the birth of a new industry, with a modern refinery taking shape on its doorstep.

The successful completion of Imperial Woodbend No. 1 hints at a possible new discovery, or a substantial addition to Leduc's proven acreage.

Truly it has been a year of progress, but a mere recapitulation of statistics does not tell the full story of Leduc.

It came into being at a time when the oil-seekers were becoming discouraged and gave an added incentive to further effort.

It stepped into the breach when domestic production was on the wane; when consumption was piling up new records and when oil had to be hauled further, and at greater cost, to satisfy Canada's refineries. It set up a chain of events leading to prosperity. As far off as the Yukon men rolled up their sleeves and went to work because

of Leduc, dismantling and moving a refinery for erection in Edmonton. Tradesmen, storekeepers, construction workers, land surveyors, bank clerks, taxi drivers and newsboys all shared in the activity the field set in motion.

The actuality of Leduc is impressive; its potentiality is even more important. Every barrel which flows from a Leduc well takes the place of a similar barrel of imported crude; every new well reduces the strain on our transportation and the drain on our U.S. dollars.

Every new Leduc well brings the day nearer when the needs of the prairie farmer and the demands of prairie industry will be met from prairie sources, ensuring abundant and eventually cheaper petroleum products.

Adequate domestic production will assist Canada's entire industrial economy and, for the first time in three decades, there is a rift in the clouds.

Happy Birthday, Leduc!

IMPERIAL OIL LIMITED





Possibly attracted by the mouth-watering sign over the windows of this recently redecorated Tokyo store, two Japanese women peer into the show windows. That there's nothing on sale inside except fruit and flowers. "The proprietress says the sign is a little premature" but that she hopes to have plenty of ham and sausage in the future.

Sole Law-Making Authority

New Zealand Considers One-House Legislature

WELLINGTON, N.Z., Feb. 15.—(CP).—A committee of 13 members of New Zealand's House of Representatives is considering the desirability of making it the sole legislative authority in the Dominion.

This is the request to an opposition move several months ago for the abolition of the upper house, the Legislative Council, which is an entirely government-nominated body. The move was not approved by the government which carried an amendment for the formation of the committee which comprises seven government members and six from the opposition.

An abolition of the upper house has not been part of the Labor government's platform for a good many years; it is thought unlikely that the committee will favor single-chamber legislature, but some reform will be recommended. A measure to make the Legislative Council elective has been on the statute books for many years but the necessary order making it effective has never been gazetted.

The strength of the Legislative Council is not fixed, but at present consists of 36 members who are appointed for seven years. About 30 per cent of the present are Labor supporters.

\$150,000 Payment To Cancer Institute

OTTAWA, Feb. 15.—(CP).—Trustees of the King George V jubilee cancer fund yesterday submitted payment of \$150,000 toward the work of the National Cancer Institute of Canada. The sum is a second instalment of a grant of \$350,000 from the fund to be spent over a period of three years.

Voting of the money came after trustees approved a report of the cancer institute which disclosed that in 1943 some 20 grants in aid of cancer research had been awarded to 150 universities and four research fellowships at different universities had been authorized after careful consideration of applications by the institute's scientific advisory committee.

The report said an increasing number of papers on current research in cancer were expected in Canadian medical journals. It also noted that cancer was under preparation.

The institute expressed its willingness to report to lead in assisting a tumor registry where specimens of unusual cancer tumors could be made available for study at laboratories.

Dr. A. W. Hill of Regina, a director of the Saskatchewan Cancer Commission, has almost completed the survey of cancer research and treatment facilities from coast to coast under the auspices of the institute. His report will be presented before the end of next month, and is expected to contain findings and recommendations which will make possible improved standards of diagnosis and treatment.

Hitler's Physician Dislikes Hanging

MUNICH, Feb. 15.—(AP).—Hitler's personal physician, Dr. Theodor Doenitz, is reported to be a medical opponent rather than the hanger-on of the Nazi regime, according to a report from the United States Supreme Court. Dr. Doenitz has been reported to be a medical opponent rather than the hanger-on of the Nazi regime, according to a report from the United States Supreme Court.

FREE TREATMENT FOR STOMACH PAIN

(Due to Gastric Hyper-Acidity)

Stomach pain, indigestion, heartburn, gas, and other gastric troubles are relieved by the use of the "Gastric" treatment. This treatment is free of charge and is available to all who suffer from these conditions. It is a simple and effective method of relieving gastric distress and is recommended by the "Gastric" treatment.

Alterations Always Bring Protests

President Truman Hangers For White House Balcony

By C. R. BLACKBURN

WASHINGTON, Feb. 15.—(CP).—When President Truman went to bed last night, he was not alone. He was joined by a host of reporters who had gathered outside the White House to catch a glimpse of the president. The reporters were not allowed to enter the White House grounds, but they were allowed to stand on the sidewalk in front of the White House. The reporters were not allowed to enter the White House grounds, but they were allowed to stand on the sidewalk in front of the White House.

But it was not always that way and Truman took time out from more serious matters to tell the reporters about it. The other day when they returned to the White House, he was not alone. He was joined by a host of reporters who had gathered outside the White House to catch a glimpse of the president. The reporters were not allowed to enter the White House grounds, but they were allowed to stand on the sidewalk in front of the White House.

IT HAD A lawn as it has now and at the foot of it was the old Chesapeake and Ohio canal, the president said.

John Quincy Adams, when he was president (1825-29) used to go down to the canal every morning since a swim, the president said.

Warning to the historical subject he recalled that there was a woman who had been in the White House during the Adams administration.

Marketings Down, Percentage Is Up

REGINA, Feb. 15.—(Saskatoon).—Co-operative Livestock Producers Ltd., handled 383,578 head during the year ended July 31, 1944, a drop of 55,791 from the preceding 12 months. Operating surplus of 59,424 was shown, after providing depreciation on fixed assets and making provisions for doubtful accounts.

In reduction, members state pinpoints reduced production of cattle and hogs in the province since a greater percentage of total marketings was handled through the pool.

Provincial deliveries of cattle dropped 12,021 while the percentage handled through the livestock pool dropped only 5.75.

Provincial reduction in hog marketings was 30,696; the pool reduction 25,711; sheep and lambs showed a provincial drop of 13,841; while pool handlings were up 2,299.

Most notable reduction was shown in marketing of hogs, down by 8,318 head. Cattle were down 7,136 head, sheep 1,328.

Plenty of Air But No Gas Found

CALGARY, Feb. 15.—(CP).—Roy Kannon's hopes that he had a gas well on his farm south of west of Calgary where drillers were seeking water were shattered when a test failed to find any gas in the strong draught blowing from the west.

Mr. Kannon, still wondering what is causing the upsurge of air, has ordered the drillers to shove the casing down and probe deeper for oil.

Although the mouth of the hole was left open all day Sunday and for some time Monday, the pressure of air remained constant and strong. It was warmer than air at the surface.

Victoria Girl Best Aussie Horsewoman

MELBOURNE, Australia, Feb. 15.—(CP).—A Victoria girl, Miss Kathleen Lucas, recently won the most coveted award for women riders in Australia. This was the Garrvown perpetual trophy for competition at the Melbourne Royal Agricultural show. It was first given in 1914 to commemorate the death of a noted Australian horseman, Mrs. Violet Murrell who was married to death with her husband trying to save her favorite horse, Garrvown, from a fire at Mordialloc, Victoria.

Twenty-two-year-old Miss Lucas is one of the youngest competitors ever to win the award, she scored 50 1/2 points out of a possible 100 for expert riding, perfect costume and excellent mount, after a grueling two-hour test in the arena. Any woman who wins the award can fairly be said to be the best horsewoman in Australia.

RELIEVE COLDS OVERNIGHT

Grove's Cold Tablets fight colds instantly... no being tired or suffering from distressing colds. Don't let your cold become serious.

GROVE'S COLD TABLETS

Flin Flon Reports Canned Milk Need

FLIN FLON, Man., Feb. 15.—For the second time this winter, the northern Manitoba mining community found itself faced last night with a shortage of canned milk described by town authorities as "desperate" and which had resulted in an appeal to the federal government for assistance.

With mothers unable to find the product on store shelves here for the feeding of their infants, the Chamber of Commerce sent a message to Agriculture Minister Charles

dinner in Ottawa asking him for assistance. A month ago Flin Flon received deliveries barely in time to relieve a serious shortage.

Lack of storage space for milk, which was given as one of the major reasons for the present shortage.

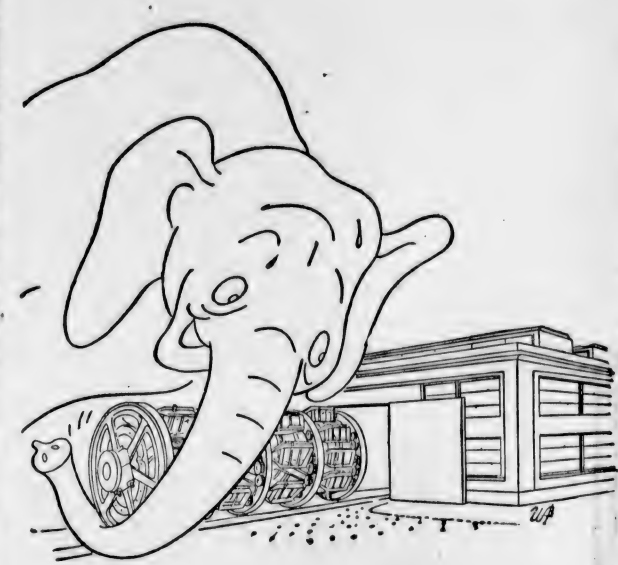
At the P.A., about 95 miles south of here, wholesalers reported they had enough stocks of canned milk on hand for two to three weeks and one wholesaler said he was "satisfied" that retailers at Flin Flon had not approached The P.A. for canned milk. He said some orders had been received from Flin Flon for powdered milk.

Drastring Suggestion Gets Cold Shoulder

LONDON, Feb. 15.—The government yesterday turned down a suggestion for outlawing Communists and asking their heads.

The proposal came from Sir Walter Gellie, Conservative member of parliament.

Arthur Morrison, parliamentary secretary to Prime Minister Attlee, replied: "You may be assured that the government keeps a close watch on any activities designed to subvert the constitution and would not fail to take any measures necessary in the interests of national security."



IT'S FANTASTIC the demand for wires and cables of all types, created by the demand for new telephone service throughout the Dominion. The erection of new buildings and the installation of new machinery in our great new wire and cable plant at Lachine, Que., is a mammoth job which is well under way. Northern Electric, Canada's largest makers of telephone equipment.

GROVE'S COLD TABLETS

PLACE YOUR WANT ADS at the JASPER & 101 ST. WANT-AD BOOTH LA PARISIENNE PHARMACY

At the Bus Stop — West of Capitol Theatre — East of 101 Street

A competent WANT-AD-TAKER will be in attendance at the NEW BULLETIN WANT-AD BOOTH from 9 a.m. to 5 p.m. DAILY. This new, convenient location enables readers to place their WANT ADS while shopping downtown. Ads received by 11 a.m. daily will appear in the BULLETIN's home edition the same day.

BULLETIN WANT ADS PHONE 26121

Better Results At Lower Cost



Two Seek Election As Mayor of Ponoka

PONOKA, Feb. 18.—M. C. Granlund, mayor of the town of Ponoka for the last year, was named to seek re-election on nomination day here Monday.

Only other candidate will seek the mayor's seat. He is Donald W. Noyes. Six persons were nominated to contest the three council vacancies. They are: H. Dillinger, O. J. Lyle, A. J. Gaudin, S. Brubaker, G. L. St. Clair and John A. Farrell.

Charles W. Noyes was elected as school trustee by acclamation. Elections will be held next Monday.

Open New Plant

CHIPMAN, Feb. 18.—The new pasteurization plant was opened in Chipman, recently. Milk is now supplied to Mundare, St. Michael's and Fort Saskatchewan, in addition to Chipman. Plans are being made for the transporting of milk to other nearby centres.

Round Hill Wins

ROUND HILL, Feb. 18.—Round Hill District Juveniles defeated Camrose 1-0 recently in the first round of the juvenile hockey playoffs. The Round Hill club now moves Wainwright in the second round.

Re-elect Councillors

VERMILION, Feb. 18.—Councilors Ross, Roeske and Gerald Stephens were re-elected for three years, terms by acclamation. It was disclosed here Monday when nomination closed. H. R. Parker was re-elected for two years as the municipal representative on the municipal hospital board. Nominations for school trustees will be held Friday.

Fire Damages House

HARDISTY, Feb. 18.—Fire caused considerable damage to the interior of the home of Mrs. Fred Robson here recently. Snow was used to keep the flames from spreading until the fire department arrived and extinguished the fire. Cause of the fire is believed to be an overheated stove.

Hardisty Beaten

HARDISTY, Feb. 18.—Allie hockey club defeated Hardisty 5-3 here recently in the return game of a two-game series.

Several cases of chickenpox and measles have been reported in Hardisty and attendance at school is down.

Win at Andrew

WILLINGDON, Feb. 18.—Three rinks from Willingdon attended the Andrew bantam recently completed. Dr. W. G. Latastra's rink won third in the grand challenge. Jack Woolley and Harold Savage took first and second respectively in the Citizen's event.

At the C.C.F. convention in Andrew, recently Nick Buchenski, teacher of Willingdon, was nominated for the next provincial election.

Annual meeting of the Willingdon electors was held recently and the annual reports of the mayor and secretary-treasurer were presented. On Monday, Willian Haden and John Pedersen were nominated as councillor Monday, Feb. 23 will be election day.

Mark Anniversary

TWO HILLS, Feb. 18.—Mr. and Mrs. Jacob Olinick who have lived at Two Hills for more than 20 years, recently celebrated their 38th wedding anniversary. Walter Dowhanuk recently returned from a business trip at Calgary.

A Big Day for Little People



Shoulder high to the registration table in a Chicago courthouse, three-foot, 10-inch Dollars Dai No, 20, and four-foot, six-inch Lewis Graft, 28, take their right hands to be sworn for a marriage license. Deputy Clerk Francis J. McMahon officiates.

Elect Officers

DAWSON CREEK, Feb. 18.—Harry Collins was re-elected president of the Dawson Creek Liberal Association at a meeting here recently. E. Carefoot was elected secretary while W. H. W. Harper and C. Kennedy form the executive. It was decided to continue the Tuesday evening broadcasts over C.B.C. for the next year. It is planned to form a young Liberal club.

Inspects System
DAWSON CREEK, Feb. 18.—D. Macdonald, Dominion government official, visited Dawson Creek and district recently, to inspect the telephone system. He said that the present equipment was in poorer condition than was expected and that it would be replaced with new. A switchboard is to be installed.

Dies at Two Hills

TWO HILLS, Feb. 18.—Mrs. Hilda Bodarski of the Two Hills district, died at her home recently at the age of 81 years. Her husband was accidentally killed 18 years ago. Her father, D. Nickolchuk, died when he learned of her death. He was 88 years old.

Peace River Leads Hockey Playoff

PEACE RIVER, Feb. 18.—The first of a home and home hockey series between McMillan and Peace River was played recently. The local team went on to McMillan Thursday night with a margin of man goals—goals while Victor Thors called for Host Creek.

Host Creek: Harold Strand, Art Hardy, Don Bailey, Alberta Lander, Victor Thors, Ray McLachlan, Bud Clark, Leonard Schaefer, Howard Malcolm, Max Schuker.

Chipman: Johnny Mokska, Billy Mokska, Steve Antonuk, Andy Antonuk, Joe Pauls, Peter Parson, Chas. Nichols, Allen Tomshewsky, William Shepvtchik, Eddie Maturuk, Eddy Sorochak.

Gerhart Rink Wins Mannville Event

MANNVILLE, Feb. 18.—The Gerhart rink of Mannville won the grand challenge honors to the annual Mannville bantam recently completed. Thirteen rinks competed in this year's event. 15 local rinks, one from Fort Saskatchewan, two from Vegreville, four from Innisfree, three from Minnisk, one from Wainwright and nine from Vermilion.

Following are the results: Grand challenge—1, Gerhart; 2, Mercer; Mannville; 3, Innisfree; 4, Warren, Vegreville.

Merchants event—1, Tellegah, Vegreville; 2, G. Park, Vermilion; 3, Innisfree; 4, Warren, Vegreville.

Cash—1, M. Mann; 2, Van Dusen, Mannville; 3, Telich, Mannville; 4, Gamble, Mannville.

Rabbi Buried

VANCOUVER, Feb. 18.—(C.P.U.) Rabbi Y. Vratinsky, 66, formerly of Winnipeg, was buried here yesterday. Rabbi Vratinsky was well known in Western Canada for his welfare work and development of Hebrew schools.

Chipman Defeats Ross Creek 3-1

CHIPMAN, Feb. 18.—Chipman defeated Ross Creek 3-1 in a semi-final hockey game here recently. Andy Antonuk, Billy Mokska and Willie Shepvtchik were the Chipman goal-getters while Victor Thors called for Host Creek.

Host Creek: Harold Strand, Art Hardy, Don Bailey, Alberta Lander, Victor Thors, Ray McLachlan, Bud Clark, Leonard Schaefer, Howard Malcolm, Max Schuker.

Chipman: Johnny Mokska, Billy Mokska, Steve Antonuk, Andy Antonuk, Joe Pauls, Peter Parson, Chas. Nichols, Allen Tomshewsky, William Shepvtchik, Eddie Maturuk, Eddy Sorochak.

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Primate Probes Marriage Laxity

TORONTO, Feb. 18.—(C.P.U.)—Post-war stresses, the uncertainty of the times and a shortage of proper housing were listed yesterday by Archbishop G. P. Michaud, primate of all Canada of the Church of England, as factors contributing to a growing laxity in the attitude of Canadians toward marriage. A tendency to regard marriage as a mere social convenience with increasing social problems, he said.

Discussing the proposed union in Canada of the Church of England and the United Church, he said: "Our conversations with the United Church are continuing in the attitude of good will which is contributing to better understanding and greater co-operation."

Max Aitken Denies Talk With Germans

LONDON, Feb. 18.—(Reuters)—Max Aitken, Conservative member of parliament and son of Lord Beaverbrook, Canadian-born British publisher, yesterday denied and described as "outrageous" a Russian charge that he had tried to start negotiations with the Germans at Lisbon in September, 1941.

Aitken said he was at an R.A.F. visit father station in Britain in September, 1941, and was not at that time. He said he was on his way back to the Middle East. Aitken added that he had never heard of a Gustav von Knebel, mentioned in the Moscow statement as a Hungarian "acting with the authority of the German ministry of foreign affairs" with whom Aitken is supposed to have talked in Lisbon.

DOMINION MOTORS LTD. OPENING CELEBRATION

Absolutely Free! NEW 1948
Monarch CAR



and 5 Additional New Gifts

- 1. NEW CAR RADIO (to fit any car)
- 2. PASSENGER CAR TIRES (600x16)
- 3. NEW CAR HEATER (to fit any car)
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EVERYONE IS INVITED TO OUR

Public Opening

CONTINUING
THURS., FRI. and SAT.

OPEN ALL DAY AND
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HERE IS ALL YOU DO!

INVENT A SLOGAN

FOR THE NEW DOMINION MOTORS LTD.

Simply visit our new home and enter your slogan on an entry card that will be provided. Everyone has an equal chance! No money to pay.

CONTEST CLOSES SATURDAY, FEB. 21

The best slogan will win the NEW MONARCH CAR and the next five best will win additional prizes.

The Decision of the Judges Is Final!

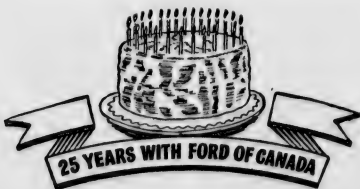
YOU MAY BE A WINNER!

DOMINION MOTORS LTD.

DOMINION MOTORS LTD.

EDMONTON

Ford and Monarch Dealers



TODAY, this well-known dealership celebrates an important anniversary—marking Twenty-Five Years of service to car and truck owners in partnership with Ford. We of Ford of Canada extend hearty congratulations on this splendid record and the progress achieved with each passing season. We know that a very large part of the success we have had is due to the continuing support of the successful and responsible business men who serve their neighbors as dealers in the products of the Ford organization in Canada.

Twenty-five years is a long period in the life of any community business. It is a record that can be achieved only through merit and conscientious effort. When you get right down to it, it is a testimonial to enterprise and service that says . . . "Here is a business which has served its fellow citizens well and truly through the years."

With you, we join in wishing the management and staff of this long established dealership still greater success in the years that lie ahead. We know they will achieve it, by deserving it.



FORD MOTOR COMPANY OF CANADA, LIMITED

WAR ASSETS

TO MERCHANTS

Subject to prior sale or withdrawal, the following war surplus items are available:

New 20" Signalling Projectors
20" Signalling Projectors on adjustable pedestal, equipped with shutter and lens. Automatic Air Mechanism operates on 60 Volts, 81 Amps. Current. These Projectors can operate on 110 Volts at 20 Volts. Current, supplied through regulating and fixed resistors. For 110 Volt supply only one resistor is required. Manufactured by Canadian General Electric for the Navy and in original crates.

ADDRESS ALL ENQUIRIES TO:
Chief, Ship Sales Division
War Assets Corporation
4925 St. Catherine St. W.
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COMPRESSION TESTERS

Graduated from 0 to 125 lbs. compresses in cylinders. Graduated from 0 to 125 lbs. compresses in cylinders. Graduated from 0 to 125 lbs. compresses in cylinders.

BATTERY CHARGERS

115 Volts, 60 to 65 Cycles, AC Amps; 12, DC Amps. 8 Charges in 1 to 2 1/2 hrs. full charge.

CONNECTING ROD ALIGNERS

Model "V" for aligning pistons. "V" for aligning pistons. "V" for aligning pistons.

SCARIFIERS (GRADERS)

Model "V" for scarifying. Model "V" for scarifying. Model "V" for scarifying.

SCARIFIERS (GRADERS)

Model "V" for scarifying. Model "V" for scarifying. Model "V" for scarifying.

MARBLE SLABS

For lavatory partitions, glass polished surface 12" x 48" x 1/2" and 36" x 48" x 1/2".

NEW STERILIZERS

A large assortment of Sterilizers. A large assortment of Sterilizers. A large assortment of Sterilizers.

24 VOLT DC ELECTRIC MOTORS

A large quantity of 24 Volt Electric Motors. A large quantity of 24 Volt Electric Motors. A large quantity of 24 Volt Electric Motors.

FIRE EIGHTEN EQUIPMENT

Model "V" for fire fighting. Model "V" for fire fighting. Model "V" for fire fighting.

MISCELLANEOUS

Cyclinders, Ladders, Cylinders, Ladders, Cylinders, Ladders.

RADIO

A large quantity of Radios. A large quantity of Radios. A large quantity of Radios.

TRANSMITTERS

AT 12 Volts DC, 100 to 375 Kcs. Crystal Co. 100 to 375 Kcs. Crystal Co. 100 to 375 Kcs. Crystal Co.

RECEIVERS

AT 12 Volts DC, 100 to 375 Kcs. Crystal Co. 100 to 375 Kcs. Crystal Co. 100 to 375 Kcs. Crystal Co.

THANSECEIVERS

Model "V" for thanseceivers. Model "V" for thanseceivers. Model "V" for thanseceivers.

PHONO PROJECTOR AND RECORD PLAYER

Model "V" for phono projector. Model "V" for phono projector. Model "V" for phono projector.

AUDIO INTERPHONE AMPLIFIERS

Model "V" for audio interphone. Model "V" for audio interphone. Model "V" for audio interphone.

RADIO COMPASS TEST UNITS

Model "V" for radio compass. Model "V" for radio compass. Model "V" for radio compass.

Makes Bitter Attack Charges Sask. Would Socialize A Lands

REGINA, Feb. 18.—(CP)—A. W. Embury (former services) charged in the legislature yesterday that Saskatchewan's C.C.F. government had embarked on a campaign to socialize the land and urged that "the decent people of this province, no matter what their politics, should join together" and drive the government from office.

THE TRANSFER of crown lands from the resources department to the department of agriculture and the veterans-settlement policy of the government indicated the "ambitions of the government to socialize the land," he said in the resumed throne speech debate.

He said a coalition government might be the best way of defeating the C.C.F. government and it was the House Premier, C. C. Duggan, who said he hoped coalition conditions would be met for the next election wherever feasible.

In a bitter attack on government socialization policies Mr. Embury charged the government dominated veterans' cooperative farms and the veterans-settlement tract at Saskatchewan. Crown lands had been transferred to the minister of agriculture to give him control over the farm industry and make him "landlord" of some 1,200 veterans who had settled on crown lands.

The government has embarked on a program like that which Russia began in 1923 and completed in 1928," he said.

TWICE SPEAKER Tom Johnston attacked Mr. Embury in withdrawal remarks directed at cabinet ministers, when he called Agriculture Minister J. C. McNeil a "Russian Socialist" and again when he called the House Premier a "Russian Socialist" and again when he called the House Premier a "Russian Socialist."

Mr. Johnston would prefer to keep veterans settlers as tenant farmers. He said that the government would not get its land under government control, but would get it under government control, but would get it under government control.

Leslie W. Lee (C.C.F.—Cumberland) attacked the government's failure to engage in oil exploration. Saskatchewan's resources had been wasted, he said, and the government would not get its land under government control, but would get it under government control.

BRITISH-MADE Tractors for U.S.

WASHINGTON, Feb. 18.—(AP)—A congressional committee was told yesterday that United States farmers will get 15,000 tractors from England this year.

That news obviously surprised house of representatives agriculture committee members. They had been used to hearing complaints about so much of America's farm equipment being shipped abroad under the European aid program.

Then Harry Ferguson Company, Inc., told about tractors moving in different direction. Pitches said his company has contracted with the Standard Motor Works, Coventry, England, to make Ferguson tractors, and they are being turned out there at a rate of shipment to the United States.

Swiss Invasion Was Planned By Hitler

NIERNBERG, Feb. 18.—(AP)—A German newspaper said today that the war crimes trial of 21 former officials of Hitler's government will be a real plan to invade the European aid program.

The documents worked out by the S.S. Hitler's Elze Gaud, called for the use of Swiss Nazis and of Swiss soldiers in the invasion of the European aid program.

Swiss soldiers in the invasion of the European aid program. Swiss soldiers in the invasion of the European aid program. Swiss soldiers in the invasion of the European aid program.

Close Play Marks Consols Play

ST. LOUIS, Feb. 18.—(CP)—Outcome of the curling competition to decide a Northern Ontario representative for the Dominion championship at Calgary.

rested on the last game late last night of the double round-robin played staged here by rink from Montreal and a Quebec curling organization in the north.

Bob McBurney's Noranda rink defeated Jimmy Hoy's Kenora 11-10 earlier last night at Capetol, 15 miles north of here, where the Noranda rink defeated the Kenora rink 11-10.

In trying to clear the scoring circles, one of Guy's men raised a Marching rock into the scoring position on the last end and the Kenora rink was unable to take it out. It proved to be the point that won the game.

Curling Champs Fail to Qualify

WINNIPEG, Feb. 18.—(CP)—Canadian champion Jimmy Welsh of Winnipeg lost yesterday to a rink representing Manitoba in the 1948 Dominion curling championship when his rink was eliminated from the Manitoba Curling Association's Hamilton Jubilee tournament.

Welsh's Deer Lodge rink was beaten 8-5 by Winnipeg's Kenora rink. Kenora rink was beaten 8-5 by Winnipeg's Kenora rink. Kenora rink was beaten 8-5 by Winnipeg's Kenora rink.

Victories in consolation play were scored by two other Strathcona rinks, skipped by Jimmy Hoy and Roy Forsyth, and the Winnipeg rink skipped by Bill McFavish, a medical student at University of Manitoba. Another former curling champion, Ken Watson of Winnipeg Strathcona, scored 8-5 to the Alf Thompsonskipped rink of Winnipeg C.P.R.

Restored Special
EDMONTON, Feb. 18.—(AP)—The special train, victim of the first strike more than a year ago will be restored Saturday, the management of the Canadian National railway announced Tuesday.



2,500-000 fire swept the historic St. Francis de Sales church in Smith's Falls, Ont. Valuable and irreplaceable religious figures and paintings were lost, stained glass windows were ruined except for the one on the altar. Two-ton bell and tower were saved. With lightning speed the flames spread through the church and only the stone walls and steeple were left. Working in below zero weather, firemen of Smith's Falls, Ont. and from a local factory were still pouring water on the smoldering ruins 24 hours after the blaze began. Sacramental and vestments were rescued from the inferno.

Their 'Tolerance' What Europe Needs

Spirit of British People Amazes German Newsmen

BY ALLAN DREYFUS
WIESBADEN, Feb. 18.—(Reuters)—A German journalist, who has returned to the American zone after spending three weeks touring the British Isles believes that only British type "tolerance" applied to Europe can save the continent from sinking to a quagmire of inhumanity.

VON WEEDTKE declared that his trip to the "cloudy and crisis-ridden" island, he found people living with a mixture of the best and the worst, although he himself lived in the spirit of British tolerance.

He described the hungry eyes of a German accustomed to gazing at the bombed ruins of his country's cities and its discouraged inhabitants. London became a magic kaleidoscope.

Describing his arrival at Liverpool Street station, Von Weedtke said: "I was struck by the theatrical writing, as in a report published in the 'Wirtschaftliche Rundschau' that during his trip he discovered the spirit of England was best epitomized in Voltaire's saying: 'I may disagree with your opinion, but I will fight to the death for your right to express it.'"

Von Weedtke said that he was unable to discover whether the average Englishman's love of tolerance was a genuine quality, or a mere habit of mind, the result of the damp climate, or was simply the consequence of a 900-year-old democracy.

"Anyone fortunate enough to be able to visit England, he wrote, in these times, he Germany, 'You matter what the terrible purpose of his trip, could only have the same result—the spirit of England. If you transfer it to your children, it is like medicine, it has the nutritious value of mental clothes.'"

Union Support For Government

LONDON, Feb. 18.—(AP)—The government was last night its first important trade union support for its proposed voluntary wage freeze. The 80,000 members of the Fleet and Ship Workers' Union lined up behind the program on the eve of a vital meeting of the Trades Union Congress executive.

To fight inflation, the Labor government proposed two weeks ago that there be no raises except for increased production.

The government is seeking the support of the T.U.C.U. 800,000 members to avoid possible economic disaster. The Marshall Plan funds become available. It also has frozen most prices at December-January levels and asked private industry to draft a plan for curbing profits.

Louis Sails For London Thursday

NEW YORK, Feb. 18.—(AP)—Young Nicky Pao, 26, of Louisville, Ky., sailed for London Thursday on a 26-day exhibition tour in London. Just to be on the safe side, he took with him a staff of 200 pounds of steak into the Queen Mary's refrigerator.

That is not expected to pay any excess weight off the heavy-weight champion's career. As soon as he returns in April he'll be off to West London, to start his training for his 21st title defense.

In the meantime, he'll be doing his best to keep his weight down on the Marquis of Queensberry circuit. The Louisville route will call for a three-day stay at the Earl Court, which Manager Marshall Mier declares is "a sort of Madison Square Garden."

But he won't make his 78 appearance until he has only 35 appearances left to go. He will be the first to make the 78 appearance, but he won't make the 78 appearance until he has only 35 appearances left to go.

BEARS THE FLYERS

ST. LOUIS, Feb. 18.—(CP)—Tom Cooper's last-period go, gave Harry Harts a 3-1 lead with St. Louis and Flyers in their American Hockey League game tonight. Paul Lund and Lloyd Grondin, who were the home team's leading scorers, both scored twice.

IT'S HOMEOPATHIC

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HOMEOPATHIC TABLETS
SOLD BY DEALERS EVERYWHERE

Livestock Farmers Need Better Help

FORT WILLIAM, Feb. 18.—(CP)—A shortage of competent help for Western Canada livestock farmers was indicated here yesterday by D. G. McKenna, chief commissioner of the Canadian Board of Grain Commissioners.

In an interview, Mr. McKenna said a quantity of labor was required in the production of livestock and it was not available because of the long hours worked and the flow of labor into power farms.

The former minister of agriculture for Manitoba said Western Canada livestock farmers need more training production peaks set during the war.

Mr. McKenna said that the future of the livestock industry in Canada depends on the quality of the labor force. He said that the government should provide more training and support for livestock farmers.

Britain's U.S. Debt

LONDON, Feb. 18.—(AP)—Stuffed Cripps said yesterday that Britain's debt to the United States last Dec. 31, apart from indebtedness arising out of the 1945-46 war, was \$1,050,000,000 (\$1,050,000,000).

THURSDAY STORE HOURS

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(c) The offer must be made in cash or by cheque payable to the Corporation.
(d) The offer must be made in cash or by cheque payable to the Corporation.

Hamilton Fire Loss Hits \$1,000,000 Since Early December as Two Buildings Go Up in Flames



Eight firms were burned out and five others evacuated nearby buildings [battled the flames for three hours before bringing them under control. Two fire trucks, which destroyed the former Guinness-Tilden building in Hamilton, were injured. Low water pressure from small watermain hampered the fire. Every piece of firefighting equipment, except one company on the mountain, [fought the flames.]

Tells of Legislation

Edmonton CCF Group Hear Progress Speech

CCF policies now in force in Saskatchewan were explained by A. E. Thornton to 75 members of the city CCF group who attended a public meeting held in the L.O.O.P. hall Tuesday night. The subject of Mr. Thornton's address was "The Progress of the CCF in Saskatchewan." Mrs. E. Rogers presided.

Prior to the address the meeting passed a resolution that a delegate appear at the next Public School Board meeting to support the resolution asking for text books for high school students up to grade 12.

Mr. Thornton dealt with the CCF legislation in Saskatchewan with regard to taxes, farm security, health insurance, old age pensions, the power commission, auto insurance and labor.

He told of the virtues of the scientific method of budgeting carried out by the budgeting bureau in the Saskatchewan government. He pointed out that since inception of the CCF, party into power the provincial debt had been reduced by \$7,000,000. Of this amount, about 44 million had been brought about by provincial Dominion agreement.

He stated that the province's credit had increased and told of the increased price in sale of four and five per cent bonds. He said the government in 1946 collected about \$600,000 less in direct taxes from the people than did the previous Liberal government.

He agreed that the budget had increased by 14 per cent but stated that in comparison the Alberta budget had increased by 42 per cent during the same period.

"Opponents to the CCF," stated that companies would leave Saskatchewan, Mr. Thornton stated.

He answered this by saying that since the CCF had come into power there has been no loss of companies. He stated that since the CCF had come into power there has been no loss of companies. He stated that since the CCF had come into power there has been no loss of companies.

The speaker said the latest legislation for farm security which was

Sells Interests

Abraham Goldman

Abraham Goldman, Edmonton furrier who has been in business for more than 42 years has sold his interests and will move to Vancouver in the near future. He was proprietor of the Goldman Fur Co., 10455 Jasper avenue.

Mr. Goldman was born in Vilna, Lithuania and learned his trade in Paris. Shortly after the turn of the century, he went to Pittsburgh. In 1906 he was married in Calgary. He came to Edmonton in the same year.

Mr. Goldman was first connected with the Edmonton Hotel and Fur Company, but later entered business for himself.

He was an original member of the Jew Fur Merchants Association in Edmonton and also a pioneer member of the Jewish Synagogue and Beth Israel congregation here.

Mr. and Mrs. Goldman and a son, Leonard, will leave for Vancouver in March. Another son, Dr. W. P. Goldman, and a daughter, the former Miss Naomi Goldman, are residents of the coast city.

Army Parade

Local Edmonton Regiment will parade on Friday, Feb. 18, at 10 a.m. The parade will be held on the parade ground, west of the city.

Britain Has New Nationality Bill

By JOHN DAUPHINEE

LONDON, Feb. 18.—(AP)—The British government today published the text of a nationality bill, bringing it fully into line with the Canadian citizenship passed at Ottawa in 1946.

Under the measure, the people of Great Britain and Northern Ireland and of the British colonies and possessions will be given a particular status as citizens of the United Kingdom, while retaining the common status as British subjects which applies to all the Commonwealth.

Passage of the Canadian act resulted in a London conference last year, attended by representatives of all the dominions. Eire, Newfoundland, Southern Rhodesia, Burma and Ceylon. At this meeting agreement was reached on the central scheme of citizenship. No far only Canada and Eire have passed legislation but other parts of the Commonwealth are expected to follow suit this year.

Maritime Miners Accept Pay Offer

GLACE BAY, N.S., Feb. 18.—(CP)—The Maritime Miners' union has accepted a \$100,000 pay offer by the Maritime Coal and Coke Co. The offer was made on a 10 per cent basis, but the union board increased it to 12 per cent.

Almost complete returns from the following election in Germany (U.C.L.) district 28, showed the German Communist Party (K.P.) received the American vote in September after working in France with the United States in France.

He said today he renounced his American citizenship because of the "use money" idea.

Edmonton Bulletin

SECTION 4 EDMONTON, ALBERTA, WEDNESDAY, FEBRUARY 18, 1948 PAGE 37

School Board to Spend \$2.25 Million in 1948

Edmonton's public school board will spend \$2,250,000 on the construction of new schools during 1948. It was announced Wednesday by J. C. Macdonald, chairman of the board.

An estimated \$1,250,000 will be spent on the complete high school, 101 street and 10th avenue. It is proposed to add an auditorium, gymnasium, swimming pool, cafeteria, and the front wing to the building during 1948. The addition will provide 20 more class rooms.

Five neighborhood schools are scheduled for erection, each costing an estimated \$300,000. The facilities in which these will be built are: Forest Heights, King Edward Park, Alameda, Sherbrook and Jasper Place.

Don't Leave British Troops in Holy Land

LONDON, Feb. 18.—(AP)—British troops remaining in Palestine after the mandate, which ends May 15, are a question in the Commons, he answered.

He cannot undertake to leave British troops there. I have already explained that it is our intention to come out of Palestine, and I am afraid I cannot add to that.

Revenues Highest In Sask. History

REGINA, Feb. 18.—(CP)—With expenditures for each of two government departments touching more than \$6,000,000 Saskatchewan government expenditures totaled \$20,000,000 during the 1946-47 fiscal year.

It was shown in the public accounts table in the legislature yesterday by provincial treasurer, the Hon. Mr. F. H. McPherson, that the province's revenues of \$3,500,000 were the highest in the province's history.

The accounts, covering the 11 months ending March 31, 1947, reported the biggest expenditure was \$6,000,000 by the welfare department with expenditures of \$6,000,000 by the public health department.

Education cost \$5,700,000 while \$4,000,000 was spent by the highways department and \$2,700,000 by the public works department.

The summary of bonded debt showed outstanding provincial debt of \$12,000,000 and Saskatchewan government debt of \$1,000,000.

Start Clearing Snow Off Streets

City officials announced Wednesday that the City of Edmonton and the City of Calgary, would start clearing snow off the streets. The city of Edmonton, the former company starting work on the south side of the city. The city of Calgary will clear in the downtown section of the north side.

Democratic Russian Music

Soviet Composers Admit Past Failures to Create

By Walter Cronkite

MOSCOW, Feb. 18.—(HUP)—Two outstanding Soviet composers, the world-famous Sergei Prokofiev and the lesser-known Yano Muradeli, have publicly confessed their past failures to create democratic Soviet music free from bourgeois modernistic influences.

THE CONFESSIONS were given last night at a general meeting of the Union of Soviet composers called to discuss the decision of the Communist party central committee which decreed last week that Soviet composers had deviated from the proper party line for music.

Prokofiev was not present at the meeting but presented his statement in the form of a letter. Newspaper said he was unable to appear personally because of illness.

However, Muradeli whose opera "Great Friendship" toured off the decision by the central committee appeared in person to request music.

Muradeli's opera was presented for the first and only time last November 7 at the Bolshoi theatre. The performance was attended by high Soviet leaders, including Generalissimo Joseph Stalin.

Muradeli who like Stalin is a native of Georgia told the meeting that he "fully recognized the justice of the estimate given by the central committee of the Communist party in his opera," the Soviet press reported.

Muradeli described his failure as a "creative defeat," the Soviet press said, and admitted this failure to the fact that "a true for 'novelty' he took up the road of false musical composing and a formalism alien to the understanding of the Soviet people."

The Soviet press quoted Muradeli as saying that he held "full responsibility as well for the cultural practices of the music found in his opera," the Soviet press reported.

PROKOFIEV's confession was described as saying that the party's "National decision separates the decayed tissues of music from the healthy ones." From the party for the assistance it is giving him in correcting his mistakes.

It was expected that at further sessions of the central committee, other composers would be called to the central committee will report their reactions to the party decision.

Claim Holiday Pay Rules Not Observed

CALGARY, Feb. 18.—(CP)—The Calgary Trades and Labor Council has sent a letter to the Hon. Minister of Labour, Mr. J. G. McPherson, claiming that the R.C.A.P. is not observing the holiday with respect to the construction workers employed at No. 10, R.C.A.P.

The United Brotherhood of Carpenters and Joiners A.P.C. which represents most of the employees at the construction workers are being paid on an hourly basis and hence are not employed under civil service conditions.

'Sp'iel Results

Results of Wednesday morning's city council vote Tuesday night (Feb. 17) showed that the city council has approved the construction workers are being paid on an hourly basis and hence are not employed under civil service conditions.

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Gas Kills One, 25 Overcome

MONTREAL, Feb. 18.—(CP)—At least one person was asphyxiated and more than 25 others were overcome today by escaping gas in a building on east St. Hubert street.

Insulator squads of Quebec Hydro and doctors and ambulances from three hospitals were called to revive these overcome. The exact number afflicted could not be ascertained immediately.

Later police announced that the fatality was 40-year-old Mrs. I. Stora.

Nine other persons were taken to hospital, slightly overcome. First to notice the escaping gas was Mrs. Clémont, 47, who is asphyxiated to the ringing of his alarm clock at 7 a.m. and then collapsed. He had sufficient strength to telephone the police, who sent emergency crews.

Slide Kills Two

SEATTLE, Feb. 18.—(AP)—A huge snow slide killed two persons, injured three others and demolished eight houses of construction in the city of Seattle on the city high school's Ross Road on the Skagit River.

Lake Superior is the world's largest inland body of fresh water.

WALTZ NIGHT

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Beautifully designed suits in gabardine, crepe, and worsted. In 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100. Price at \$24.50 to \$29.50

Ladies' Blouses

Just arrived a shipment of new blouses in crepe, silk, and rayon. In 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100. Price at \$2.95 to \$5.95

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Reserve weight nylons in 10 to 16 sizes. Beautiful stockings. Full fashioned, by Gossamer. Gold stripe. Colors: cream, black, beige, and navy. Price at \$1.50 to \$1.95

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We live in an age which takes practically everything for granted. We accept the most astounding miracles as no more than our inherent right. Indeed if we were presented with Aladdin's lamp, with all its mystic powers, we would probably rub it and issue orders to the genie without batting an eyelash.

The habit has grown on us! We grab a telephone without a word of thanks to Alexander Graham Bell; we flood our houses with light without giving Edison a credit line; we tune in the radio and never dream of saying a prayer for the soul of Marconi; we glide over smooth asphalt highways at speeds exceeding an express train, or annihilate time and space in a plane, yet it never occurs to us to slow down sufficiently to give a passing thought to petroleum; what it is whence it came and how it was converted into high octane gasoline to provide for us a 20th century magic carpet.

Perhaps there is enough of a story in petroleum to make it worth the telling, even if it does start "once upon a time."

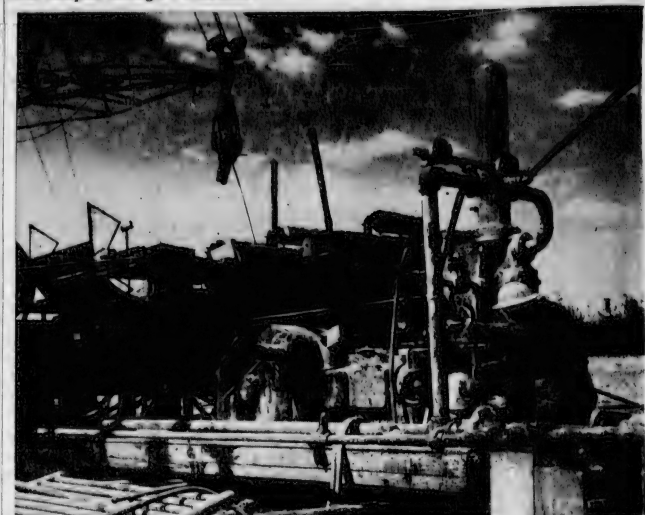
ONCE UPON A TIME petroleum was formed in sedimentary rocks of marine origin. Perhaps that requires a little explanation! When this old world first emerged from the rocks and molten vapours in which it was incubated, it was a fiery ball of molten substance with only a thin, scorching shell of what we call rock. The earth's interior is still a boiling mass of which we have proof in volcanic eruptions, but its outer shell is, fortunately, a little more stable than at the creation.

Nature, however, couldn't have been any too well pleased with her initial attempt at rock making, for she immediately attacked the earth's surface with everything she had. The waters cut channels and gorges and oceans in it to provide courses for streams and rivers; ocean waves pounded the shores and broke down their imprisoning cliffs into rocks and boulders.

Frost disintegrated the rocks by probing her fingers into their crevices and massive and irrefragable glaciers scoured the rock surface. Gusts picked up sand grains and blasted the crags into grotesque silhouettes; everything conspired to tear down the first creation.

FOR ALL THIS product of destruction, Nature had a constructive outlet. The mud, the sand, the silt were carried by the rivers and streams to the oceans. In their journey they were joined by all sorts of incidental rubbish: ferns, leaves, twigs and branches; reeds

Mud Samples Geologic Formations



The mud pump is a very important piece of equipment in drilling an oil well. Specially prepared mud is forced down the drill pipe to supply lubrication to the bit and in its circulation to the surface again

by the mud pump and raising it brings rock cuttings from the bottom of the hole. These "samples" are studied by the geologist at the well and supply information on the structures far below the surface.

between drill pipe and casing it brings rock cuttings from the bottom of the hole. These "samples" are studied by the geologist at the well and supply information on the structures far below the surface.

underlain by salt water under terrific pressure, and this salt water was anxious to reach beds which were less dense, where the pressure was greater and the pressure less, petroleum had the same urge so, wherever an opportunity presented itself, it migrated.

Sometimes it found a clear well and came straight to the surface; that's what is called a "seepage." More often it was caught in one of those structures to which we have referred, a place in the rocks formed a trap so that petroleum could go no farther. With a densely convoluted rock above it, preventing the escape in that direction, salt water beneath it still urging it on, a structure which contained and confined it so that it had to stay put, petroleum had reduced the end of the road, but for man's intervention. It was in a "reservoir rock" is an "oil pool."

It took man a long time to appreciate the value of petroleum but, now that he is a land on it and has learned something of its habits, he spends countless thousands of dollars every year in searching for new sources of supply.

THE FIRST MAN to take up the search in the geological field was fairly well acquainted with the earth's sedimentary basins so he doesn't waste time hunting around in areas, such as Canada's Precambrian Shield, where sedimentary rocks are non-existent. By examining fossil evidence he can determine which sedimentary rocks were laid down in fresh water and which in salt water. A petroleum geologist's search is devoted to areas where these exist. He measures the angles at which the rocks are dipping; he traces the "folds" or "fractures"; he examines the sediments for any change in their character which would halt the migration of oil and, eventually, he may be lucky enough to select a site at which he considers the prospect of striking oil justifies the expense of drilling. All this the geologist has accomplished by detective reasoning from what is available at the surface he has endeavored to picture the behavior of the rocks beneath the surface or more underground.

When surface exposures of rock are few and far between, as in the Western Prairies with their heavy coverings of recent deposits of silt and sand and gravel, the "geophysicist" comes to the aid of the geologist. With his magnetometer, or gravimeter, or selenograph he is able to trace the underground contours of the rocks and detect hidden structures.

WE MIGHT DRAW a parallel with medical science. The geologist is the doctor who makes the preliminary diagnosis; the geophysicist is the X-ray expert who confirms or refutes his findings; but the driller is the surgeon who operates on the back of the continued opinion and either kills or cures.

Drilling is a progressive science. Centuries ago the Chinese drilled holes with a spittoon and manpower; nowadays the oil driller inspects over an intricate assemblage of machinery which does practically everything but talk. He can probe the rocks to a depth of over three miles and keep an itemized diary of every foot of his progress.

Most oil drilling is by the "wet" (Continued on Page 41)



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Scene as Leduc No. 2 "Blows In"



When an oil well first "blows in" the oil and natural gas coming up from the producing formation below are contaminated with mud, water and chemicals used in drilling the hole. Since these would contaminate the storage tanks the flow is turned into a flare and burned for a few

Gigantic Oil Pools

(Continued from Page 40)

lengths of pipe are added. Each time the bit becomes dull, all the drill pipe must be withdrawn from the hole, broken down in stands of three or four lengths and started in the derrick, that policy of steel pipe some 175 feet above the hole. Then a new bit is attached and the pipe run back into the well, a long and laborious operation.

While drilling goes on mud fluid is forced through the drill pipe to the working face and finds

its way back to the surface outside of the pipe. Its use is manifold; it brings up samples of the rock being drilled which are separated from the mud and examined by the geologist to provide a log of the strata passed through; it prevents the sides of the hole and prevents caving of the walls; it cools the bit in operation and it helps to ease the pressure of incoming gas.

More often than not wells have to be "cased." Casing is steel tubing, similar to drill pipe, and in diameter from 4 1/2 inches to 24 inches, although the larger sizes are seldom necessary in a rotary well. In running casing the drill pipe and bit is withdrawn from the hole and the casing lowered, each length being screwed into the other. Frequently the casing is cemented in place and drilling then proceeds, but in a smaller hole because the bit must now pass through the casing.

Should the geologic wish to examine a particular layer of strata, the bit is replaced by a "core barrel" which brings up a sample of the rock in much the same manner as a geologist samples ore. DELICATE instruments record the progress of the drill and its deviation from the vertical, but it must be imagined that well-drilling is a purely mechanical process, for the experienced driller's eye to have acquired a seventh sense and give the impression of being in the closest communion with the bit which is grinding away ten or fifteen thousand feet below.

Should the well prove a success, test-tube tubing is run to the producing horizon and linked to an involved array of pipe and valves at the well-head, known as a "Christmas Tree." The well is now in the hands of the production engineer who, from a close study of all the factors, decides the economic rate at which it should produce, so that the reservoir energy will be preserved to keep the oil flowing.

Oil is usually found in conjunction with gas and it is this gas which is responsible for bringing the oil to the surface. Having performed this task the gas is frequently compressed so greater than reservoir pressure and returned to the producing horizon to bring out still more oil.

ON COMING FROM the well the oil is usually passed through a "separator" to separate the gas from the oil. The former is then processed to remove the last vestiges of moisture and, if there is a convenient market, is sold for domestic or industrial fuel. The oil goes to a settling tank before entering the pipe line or tanker which will speed it on its way to a refinery.

The science of refining has made enormous strides since the pioneers of the oil industry first attempted to break down petroleum by distillation. Then they were only interested in recovering kerosene for lighting purposes, now the refiner recovers hundreds of products which find their way into practically every walk of life.

Petroleum is a highly complex mixture of two elements, hydrogen and carbon, and its distillation is based on the different boiling points of the many compounds arising from the varied association of hydrogen and carbon.

Roughly speaking, 100 gallons of average crude oil would break down as follows: Gasoline, 42 gallons; kerosene, 8 gallons; fuel oil, 30 gallons of lubricants, 8 gallons; asphalt, 4 gallons; wax, 3 of a gallon; coke and gas, 7 gallons; less 1 of a gallon.

AN OIL REFINERY is a series of million dollar plants, each with a definite role in transforming crude petroleum into desired products.

The first stage is "fractional distillation" where the crude is first

refined to a temperature of 750° F. and then conveyed to a "bubble tower." In the separation chamber of this tower those fractions of the crude whose boiling points are below that temperature immediately flash into vapor, while the remainder falls to the bottom of the tower as reduced crude, that is, crude from which the lighter fractions have been removed.

The vapors, on the other hand, seek an outlet at the top of the tower, but their progress is hindered by a series of perforated trays. The heat in the bubble tower is derived from the heated crude itself, so that the temperature of the lowest tray is greater than that of the one above and each tray becomes progressively cooler. This results in the formation of condensates at different temperatures.

giving the refiner a series of "fractions" or "cuts" from the crude. The lighter vapors do not condense in the tower, but are taken at the outlet for further treatment. The CONDENSATES from the different trays are taken off as "side streams" and passed through smaller but similar bubble towers for more intensive processing, depending on the product the refiner desires to recover. The same procedure is followed with the reduced crude.

The one refinement in refining which has enabled the oil industry to meet the abnormal demand for gasoline consequent to the development of the auto and the plane, has been "cracking." By increased temperatures and pressures it has been found possible to break down the heavier molecules in the crude and convert a much larger percentage into lighter products, gasoline thus recovered having anti-knock properties.

EDMONTON BULLETIN, Wednesday, Feb. 18, 1948 41

able to break down the heavier molecules in the crude and convert a much larger percentage into lighter products, gasoline thus recovered having anti-knock properties.

Of recent growth has been "catalytic cracking," in which, by the introduction of certain foreign materials during distillation, the necessity for extreme heat and pressure is avoided and still greater quantities of high-grade gasoline are recovered. The first "test cracker" to be constructed in Canada is now in the blue-print stage for the Imperial Oil Ltd. Montreal refinery.

EVERY DERIVATIVE of crude petroleum demands extensive and expensive tailoring before it can be considered a finished product. Naptha goes through a "re-treater" and through "column steam stills" before it can be converted into aviation gasoline or the most precious medium for heating, lighting or making solvents and lubricants, varnishes or cleaning fluids.

Lubricating oils are the product of further distillation by vacuum treatment in a "clay contact plant" to remove impurities, processing in a "solvent extraction plant" and a "solvent dewaxing plant" and specialized blending into oils of varying viscosity.

Wax is recovered by rotary distillation and sent to a "sweating" oven where cuts of different melting points are obtained.

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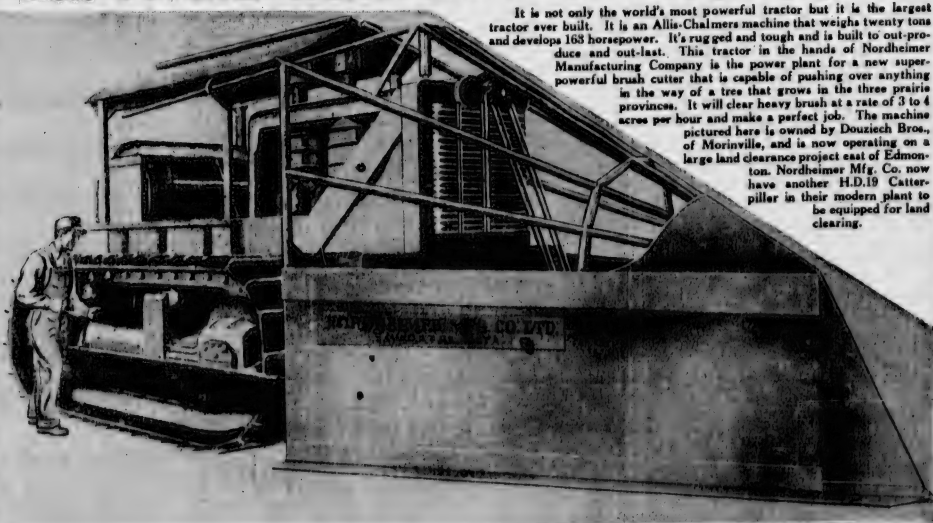
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PROTECTION COSTS UP
PETERBOROUGH, Ont. (CP)—The utilities commission here has informed city council that the charge for water and hydrant required in fire protection will be \$25,000 this year, compared with \$20,000 in 1914.

AERIAL ASSESSMENT
FREDERICTON, N.B. (CP)—An aerial survey of Saint John, N.B., for assessment purposes was projected at a meeting of the city council by chief assessor Igo A. Stevenson. No action was taken in the suggestion.

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Leduc-Woodbend Shows 5,000 Bbls. Daily on 1st Anniversary

WELL	MONTH OF PRODUCTION												TOTAL	
	BARRELS OF OIL PRODUCED												BARRELS PER DAY	
	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.,	JAN., 1915	TOTAL
	DAILY AVERAGE													
IMPERIAL-LEDUC 1	9,067	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 2	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 3	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 4	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 5	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 6	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 7	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 8	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 9	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 10	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 11	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 12	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 13	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 14	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 15	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 16	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 17	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 18	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 19	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 20	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 21	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 22	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 23	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 24	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 25	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 26	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 27	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 28	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 29	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 30	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 31	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 32	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 33	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 34	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 35	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 36	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 37	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 38	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 39	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 40	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 41	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 42	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 43	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 44	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 45	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 46	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 47	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 48	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 49	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 50	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 51	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 52	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 53	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 54	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 55	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 56	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 57	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 58	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 59	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 60	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 61	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 62	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 63	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 64	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 65	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 66	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 67	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 68	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 69	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 70	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 71	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 72	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 73	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 74	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 75	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 76	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 77	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 78	1,087	707	5,025	5,144	5,299	3,036	2,851	4,977	4,514	5,574	3,160	27	117,000	45,724
IMPERIAL-LEDUC 79	1,													

Unknown 9 Years Ago, Oil Essential

EDMONTON BULLETIN, Wednesday, Feb. 18, 1934

Since History's Dawn Vital Product Begged For Man's Recognition

It is difficult to realize that Petroleum, which is admittedly one of the prime essentials of our present day economy, was an unknown quantity ninety years ago, its use, on this continent at least, being restricted to the curing of many livestock, or the relief of credulous humans from imaginary aches and pains.

Yet, from the very dawn of history Petroleum was practically begging for recognition, spreading itself on the earth's surface, lighting torches of blazing gas, fouling man's drinking water and vitiating his precious supplies of soil.

Of course every age breeds men who are a little more observant and a little more adaptive than their fellows and such men have been pioneers in every walk of life. In that sense the Hebrew prophet who spoke of "oil out of a flinty rock" may have been the father of the petroleum industry; Noah, who "pitched" the seams of his ark, or the mother of Moses who waterproofed the basket in which she set her offspring floating on the Nile, may have seen the first asphalt technologies; the builders of the Tower of Babel, who used "bitumen" for mortar, may lay claim to being the progenitors of synthetics.

EVEN NATURAL gas had its primitive booster, for domestic fires or fire-work purposes had long and hazardous pilgrimages to strike around the burning springs which excreted the gas in the famous oil fields of Baku.

On one side of the world King Nebuchadnezzar, who was preserved from the ravages of the Babylonian civilization of the ruins used to render their excavations vessels suppurous. When Pizarro landed to subdue the Aztecs, he was greeted by the natives on the shores of what is now Mexico, where he made use of the pitch coming from the rocks to pitch out his vessels and on his nefarious mission.

THE DIDO the highly thought dream that beneath the soil which he watered with the blood of his armies, there lay a treasure far exceeding in value the gold and jewels with which he satisfied the cupidity of the Spanish crown. But those Spaniards didn't pass up a single bit, for we find them taking over the "treasure" pits in which the lines had been operating them until the wars of liberation drove them out.

It's a long way from Persia to a coal mine in England where James Young found a seepage of oil in a coal seam and succeeded in making it into burning oil. This industry, the thirty Scotch who had no petroleum, to mine a kindred substance known as oil shale and subjected it to destructive distillation for the recovery of oil, which became widely used as an illuminant and dominated that market until the early years of this century when the search turned to drill wells with the avowed purpose of finding oil.

IF PETROLEUM had slipped during these long centuries of man's comparative indifference, it has no reason to complain of the attention paid to it since Drake drilled his well in 1859, or what is more important to Canadians, since Charles Tripp of Woodstock started pumping with the "gun bore" of Enniskillen, Ontario, around 1850.

We are indebted to Mr. Alex Murray, Assistant Provincial geologist, for the first mention of Tripp's activities for, in a report dated 1851, he drew the attention of his chief to "trial holes" which were being drilled in these gun bore pits. This chief, incidentally, was William E. Logan, later known as "our Williams," the father of Canadian geology. Murray also pointed out that material from Enniskillen had been submitted for examination to Prof. Henry De la Beche, noted Canadian naturalist of that day, who published an analysis in his report of 1845.

Tripp's initial endeavors must have proved encouraging for, in 1854, he applied for the incorporation of a company, "The International Mining and Manufacturing Company" to explore for asphalt and oil and gas springs the largely to the spring of Logan, who was assembling a Canadian team for the Pacific International Exhibition of 1860. Tripp sent along a sample of his "asphaltum" which gained honorable mention.

APPARENTLY the exploration for asphalt beds and oil and gas springs struck a snag, for Tripp sold out to Mr. James H. Williams, who formed "The Canadian Oil Company" in 1867.

As his name implies Williams

Heads of Okalta Oil Firm



W. S. HERRON



H. F. HERRON

Okalta Oil, Ltd., the company claiming to be the first to recognize the potentialities of the Turner Valley Field, owed much of its previous success to the foresight of its founder, the late W. S. Herron. Affairs of the company are now being guided by W. S. Herron, president, and H. F. Herron, vice-president, sons of the founder. The company, along with its extensive holdings in Turner Valley, has 1,400 acres in the proven Leduc field.

down from ten dollars to as many cents per barrel.

The real trouble, of course, was lack of transportation. Western Ontario, in those days, being very little backwoods. Perhaps the best description of the difficulties and dangers of travel is contained in The Shores of Lady Simpson, which pushed a vivid pen and after reaching a coach and four, one can easily imagine the sad lot of the teamsters who took all to the markets.

THE FIRST REAL contribution to a "good roads movement" was made by Andrew Elliott who, in 1861 built a plank road from Oil Springs to Wyndham, where oil could be shipped to its final state and "the annual haul for Mr. Williams is about 250,000 gallons."

This brings up a rather interesting question—how much oil is usually secured to Oil. Edwin Drake, who drilled the famous "Titusville" well to a depth of 69 1/2 feet in 1859, was the first to use the term "oil well." It was his discovery of the asphalt prior to Drake's discovery in 1859 that the world's supply of petroleum has to have two wells drilled, one 100 and the other 150 feet deep, rather than an accomplishment for a type at the general. In fact, the practice of digging down to bed-rock and water purely by accident, truly a prophet is not without honour, even in his own country.

Tripp and Williams could edit the same complaint for the company of their adoption neither of monuments nor dedicated parties in honour of their achievements, and so Edna M. Drake is the mother of the oil industry, while Tripp and Williams are not even a memory. See (transit gloria mundi) no doubt injustice to Canada's petroleum pioneers was perpetuated, as noted unwittingly by Alexander Winkler, author of "The Birth of Creation." With a lack of accuracy which would do credit to a nameless "Valley of the Airways," he states that Canada's first oil well was drilled by John Shaw, the photographer, in 1862 and tells how flourishing oil prices eventually brought Shaw to penury.



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IT'S A SAD, and story, but it is true. Many wells had been drilled in the Oil Springs field before the "gun bore" was "gusher." In fact Oil Springs produced 10,000 barrels of oil in 1860. There is also reason to doubt whether Shaw, the photographer, was responsible for the well, for other gentlemen of the same name being much more active in the field, both as a prospector and refiner.

The Shaw well, however, deserves a place in history as Canada's first oil well, but it produced 2,000 barrels daily, being the first of the gushers which played tricks with oil prices, shaking them

again burst with such force that it flew the company into liquidation.

AS TRANSPORTATION improved refineries were located further afield. Mr. J. L. Enghart opened the "Pacific Works" in London in 1864, to be converted later in the "London Refining Co." which was amalgamated with a number of others in 1900 to become "The Imperial Oil Co. Ltd."

Moving the refinery and head office to Port Huron, Michigan, Enghart installed underground storage tanks. First, a "Harvel Works" and later a "Pettiford Works" were added and the company grew to what, in that day, was considered huge proportions.

Canada's first refinery was built by the Dominion Oil Company in 1871 and, at one time or another, was operated by the Alpha Oil Company and the Bushnell Oil Company before becoming part of the Imperial Oil organization, when that company moved to Sarnia in 1887.

TO VICTOR who are accustomed to look upon petroleum as a source of light, heat, power and lubrication, entering into every phase of industry, providing the motive power for a large percentage of transportation and monopolizing the mastery of the air, it may seem fantastic that, in its infancy, petroleum had only one main function, the supplying of kerosene for

Jack of All Trades, Victor's Complaint
WALTON AYLESBURY, speaking in Parliament, Dec. 17 (C.P.A.), after a long session, said: "The victor is a preacher, evangelist, organizer, editor, house-to-house visitor, sea, land, air, spiritual doctor, lecturer, runner of societies, general adviser, and able to stand up to any amount of criticism and back-biting."

"He has to be good with youth, good with children, good at social and sympathetic with old women and men, and above all extremely up to date." After getting most of a year, some little while caused it to explode, destroying everything in its vicinity. It took another year to repair but, on its first run, it

as liquid as water, containing 80 to 90 per cent. of kerosene, and 10 to 20 per cent. of gas. This process adheres to another. Having Canadian kerosene for its main product, it was ready to market lubricants, but the Globe cautiously refrained from expressing an opinion on their ability. WILLIAMS' PRODUCTS was sold in competition with New Brunswick oil and it was in three qualities, one sample as clear and as bright as water, containing 80 to 90 per cent. of kerosene, and 10 to 20 per cent. of gas. This process adheres to another. Having Canadian kerosene for its main product, it was ready to market lubricants, but the Globe cautiously refrained from expressing an opinion on their ability.

OF COURSE, THE "kerosene" revolutionized the petroleum industry and it is rather a

comeback as a result of operations now in progress coming to the fore, but nothing can rob them of their past glory for, in the annals of civilization, the petroleum industry in all its ramifications, from the "mud, impure kerosene" of oil, hauled better than they know.

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St. Boniface Wins Top Drama Honors

WINNIPEG, Feb. 18.—(CP)—Le Cerele Molere of St. Boniface, Man., marked its return to the amateur theatre last night after a time absence by winning top honors in the Manitoba Regional Drama Festival for its presentation of the French-language one-act comedy "La Boule".

Adjudicator Robert Stuart of

London, Eng., gave second place to the University of Manitoba Dramatic Society, which Monday night submitted Bernard Dreyer's "John Doe".

Awards for the best actor and actress in the two-day festival were split by the two companies. Florence Shien of the university group given the nod for her performance as Ruby, and Armand LaFleche for his interpretation of Alcide in D'Hervilly's play.

Two other members of the St. Boniface Company, Pauline Simon for her role as Honorine, and Leo

Remillard for playing Philidor, were runners-up for acting honors.

Three other drama companies also competed in the festival, the Brandon Little Theatre, which presented the second act of George Bernard Shaw's "Pygmalion"; the Winnipeg Theatre Workshop with Alice Kallie's French play "Bathsheba of Sarama"; and the Winnipeg Repertory Theatre with the second act of Daphne Du Marier's "Rebecca".

In early times scurvy, caused by lack of fresh fruit and vegetables, was the deadliest of diseases on long voyages.

Israeli Envelope Collectors' Item

WINNIPEG, Feb. 18.—(CP)—A Winnipeg woman was disclosed yesterday to have uncovered among her belongings an envelope apparently addressed by Benjamin Disraeli and which included a small photograph of the man who was British prime minister in 1868 and again from 1874-80.

Collectors here said the item was "rich" for several reasons. The cover is in Disraeli's handwriting,

the envelope had been "franked" by him and the name Disraeli was written on the envelope as the sender.

The envelope was addressed to a Robert Marriott and had been dispatched in 1867 while Disraeli was a private member. None of the present holder of the envelope was revealed.

Completes Test

WASHINGTON, Feb. 18.—(AP)—The Douglas Skyrocket, needle-nosed jet and rocket research plane, has successfully completed its first flight tests, the United States navy said yesterday.

Zoo Keeper Believes Noah's Job Was Easy

PHILADELPHIA, Feb. 18.—(BUP)—Noah marshaled the animals into the ark two by two—and brought them out the same way. But things are different at the Philadelphia zoo these days.

It's counting time and the harried keepers and attendants have double trouble taking the annual mid-winter count of specimens. Each time a count is completed, a

different total is arrived at, and, main, nature being what they are, right as far as the hippo, elephant, chimps and the rhinoceros are concerned. That goes, too, for the tigers, lions, Shetland ponies and the bears.

But the monkeys won't hold still. Since most monkeys look like other monkeys, the adding machines

wait merely every time a count is attempted. Some of the pebble dogs are contentedly asleep, but underground. Turtles have dug themselves deep in the rocks of their tanks. The waterfowl are coming and going with hardly a farewell, leaving themselves to the census taker.

Then there's a startling which sneaked into the bird cage and has no business there. And there's the Australian black swan building a nest, because it's spring in Australia and they're used to it.

By the time it's all over, no officials hope to have some 2,000 guests accounted for.

Shop at EATON'S Thursday! Store Opens at 9:30 a.m., Closes at 5:30 p.m. Daily, Except Wednesday, 9:30 a.m. to 12:30 p.m.—To Call EATON'S, Dial 9-1-2

EATON'S

February

Staples Bedding Event

Shop Thursday!

Homespun Type Cotton Spreads

No C.O.D. Phone Orders, Please

This sturdy cotton homespun type spread comes in four attractive shades, with all over floral and other designs worked in white! Blue, peach, green and gold, about 80x100" to 87x100" sizes, with scalloped edges. **\$3.95 to \$7.50**

FEATURE PRICE, EACH

Chenille Type Cotton Spreads

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Original looking, sturdy, pretty shades! This spread comes in peach, blue, rose, gold, mauve or turquoise, firm cotton grounds, with the centre designs and borders done in cotton chenille tufting of contrasting colors! Single and double bed sizes. **\$6.99**

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Limited Number

Satin Bound Bed Throws

All wool, fluffily textured, finished with ends in gleaming rayon satin. One color both sides—rose, mid-blue, mauve, camel and wine. Size approx. 60x80". **\$6.95**

FEATURE PRICE, EACH

Wool Filled, Reversible Comforters

A comforter with a long and useful life ahead of it, for it's filled with soft, fluffy wool, covered in reversible rayon satin, and bound with corded edging. Gold, mauve, green, wine, rose and blue with other side to contrast. About 65x72". **\$10.95**

FEATURE PRICE, EACH

DeLuxe Chenille Type Cotton Spreads

Feature Priced

A low pricing makes this a spread to look at! Full sized, with row upon row of cotton chenille tufting on cotton grounds! Colors are rose, blue, wine, green, yellow and mauve, with multi-colored floral designs. Size about 90x100". **\$12.95**

FEATURE PRICE, EACH

Chinese Embroidered PILLOW CASES

Imported from China, these bleached white cotton cases have deep cut-work embroidery in floral design, blue-grey in color. Sturdy and long wearing. **\$2.95**

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No C.O.D. Phone Orders, Please

"Subs" in Pillow Cases

NO C.O.D. PHONE ORDERS, PLEASE
Slight imperfections mark these substandard, but they're of sturdy grade, firm, bleached white cotton, with hemmed or hemstitched ends. Width about 40". **59c to 75c**

FEATURE PRICE, EACH

White Flannelette

NO C.O.D. PHONE ORDERS, PLEASE

If you're making a layette, you'll appreciate the moderate cost of this flannelette! White, fleecy and very soft, approx. 36" wide. **35c**

YARD

Blue Flannelette

NO C.O.D. PHONE ORDERS, PLEASE

Soft, light colored blue to make into pretty pyjamas and nightgowns for kiddies or for your own self! About 36" wide. **35c**

YARD

FLANNELETTE BLANKETS — No C.O.D. Phone Orders, Please

Pink or blue all over checks or white with borders in pink or blue. Firm grade, with whipped ends, sizes approx. 60x90" to 70x90". **\$3.95 to \$4.50**

PAIR

Colorful Wool Blankets

Stock up while these blankets are at this reasonable price! Approx. 10-lb. weight in a good, fleecy wool, about 70x90" with black border and black whipped ends. Red, green and camel. **\$15.95**

PAIR

All Wool Camper Blankets

Practical blankets of heavy all wool, about 64x84", with whipped ends. Camel, red or green with black stripe borders. **\$5.95**

EACH

AUTO RUGS

A choice of patterns and grades of wool! Both types of all wool, with fringed ends, size about 56x70". One is in red, green, rust or dark blue overcheck, the other in Buchanan or novelty brown tartan. **\$4.95 to \$8.95**

EACH

English Lace Cloths

Open one out and see it's graceful beauty, the all over loveliness of it's floral and scrolled design! Made of heavy cotton lace in a deep ecru shade, about 70x90" with in-wide hemmed ends. **\$4.95**

EACH

"Shag" Bath Sets

A deep soft pile, cotton shag about an inch thick, closely tufted, and shown in plain rose, blue, peach, green, helio, cream or turquoise of light coloring! Mat about 22x34", regular seat cover with tape ties. SET **\$5.95**

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